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FILE COVERS 1907 - 30 May 2007 VOL 146 ISS 23
FILE LAST UPDATED: 29 May 2007 (20070529/ED)

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L106 ANSWER 1 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:579802 HCAPLUS Full-text
DN 145:48610
TI **Electrode** structure for lithium secondary **battery**
IN **Kawakami, Soichiro**; Morita, Akira; Ogura, Takao
PA Canon Kabushiki Kaisha, Japan
SO U.S. Pat. Appl. Publ., 30 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2006127773	A1	20060615	US 2005-296460	20051208 <--
PRAI	JP 2004-358458	A	20041210		

AB In an **electrode** structure for a lithium secondary **battery** including: a main active material layer formed from a metal **powder** selected from silicon, tin and an **alloy** thereof that can store and discharge and capable of lithium by electrochem. reaction, and a binder of an organic polymer; and a current collector, wherein the main active material layer is formed at least by a **powder** of a support material for supporting the electron conduction of the main active material layer in addition to the metal **powder** and the **powder** of the support material are **particles** having a **spherical**, pseudo-**spherical** or pillar shape with an average **particle** size of 0.3 to 1.35 times the thickness of the main active material layer. The support material is one or more materials selected from a group consisting of graphite, oxides of transition metals and metals that do not electrochem. form **alloy** with lithium. Organic polymer compounded with a conductive polymer is used for the binder. There are provided an **electrode** structure for a lithium secondary **battery** having a high capacity and a long lifetime, and a lithium secondary **battery** using the **electrode** structure and having a high capacity, a high energy d. and a long lifetime.

IT **71818-44-5**
RL: DEV (Device component use); USES (Uses)
(**electrode** structure for lithium secondary **battery**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

IT **519169-23-4P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(**electrode** structure for lithium secondary **battery**)
RN 519169-23-4 HCAPLUS
CN Silicon alloy, base, Si 65,Sn 30,Cu 5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	65	7440-21-3
Sn	30	7440-31-5
Cu	5	7440-50-8

L106 ANSWER 2 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1058767 HCAPLUS Full-text
DN 142:41481
TI Manufacture of **electrode** structures for secondary lithium **batteries** with long cycle life
IN **Kawakami, Soichiro**; Kosuzu, Takeshi
PA Canon Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004349079	A	20041209	JP 2003-143824	20030521 <--
PRAI JP 2003-143824		20030521		

AB The **electrode** structures have **electrode** layers prepared from pastes (adjusted at pH 3-9) containing Si-based fine **powders**, auxiliary elec. conductors (e.g., graphite), binders (e.g., **polyvinyl alc.**, sodium CM-cellulose), and pH-controlling solns (e.g., potassium hydrogenphthalate buffer). The **electrode** structures show uniform surfaces.
IT **803745-57-5**
RL: DEV (Device component use); USES (Uses)
(**anode**; manufacture of **electrode** structures for secondary lithium **batteries** with long cycle life)
RN 803745-57-5 HCAPLUS
CN Silicon alloy, base, Si 62,Sn 33,C 4.8 (9CI) (CA INDEX NAME)

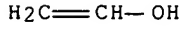
Component	Component Percent	Component Registry Number
Si	62	7440-21-3
Sn	33	7440-31-5

C 4.8 7440-44-0

IT **9002-89-5, Poly(vinyl alcohol)**
RL: DEV (Device component use); USES (Uses)
(binder; manufacture of **electrode** structures for secondary lithium **batteries** with long cycle life)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



L106 ANSWER 3 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1012099 HCAPLUS Full-text
DN 141:426308
TI Nonaqueous electrolyte secondary **battery** comprising composite **particles**
IN Morigaki, Kenichi; Iwamoto, Kazuya; Koshina, Hizuru; Shimamura, Harunari; Nitta, Yoshiaki
PA Matsushita Electric Industrial Co., Ltd., Japan
SO U.S., 19 pp., Cont.-in-part of U.S. Ser. No. 90,484.
CODEN: USXXAM
DT **Patent**
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6821675	B1	20041123	US 2000-601234	20001030 <--
	US 6090505	A	20000718	US 1998-90484	19980603 <--
	JP 2000173587	A	20000623	JP 1998-342885	19981202 <--
	JP 2000173588	A	20000623	JP 1998-342886	19981202 <--
	JP 2000173607	A	20000623	JP 1998-342893	19981202 <--
	JP 2000173608	A	20000623	JP 1998-342894	19981202 <--
	WO 2000033400	A1	20000608	WO 1999-JP6686	19991130 <--
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRAI	US 1998-90484	A2	19980603 <--		
	JP 1998-342885	A	19981202 <--		
	JP 1998-342886	A	19981202 <--		
	JP 1998-342893	A	19981202 <--		
	JP 1998-342894	A	19981202 <--		
	WO 1999-JP6686	W	19991130 <--		
	JP 1997-144873	A	19970603 <--		
	JP 1998-123199	A	19980506 <--		

AB A neg. **electrode** of a non-aqueous electrolyte secondary **battery** contains, as main a component, composite **particles** constructed in such a manner that at least part of the surface of nuclear **particles** comprising at least one of tin, silicon and zinc as a constituent element, is coated with a solid solution or an intermetallic compound composed of elements included in the nuclear **particle** and at least one element, exclusive of the element included in the nuclear **particle**, selected from a group of elements in a Periodic Table,

comprising group 2 elements, transition elements, group 12 elements, group 13 elements and group 14 elements exclusive of carbon. The **batteries** of the present invention include non-aqueous electrolytic solution and solid electrolytes comprising polymer gel electrolytes. The construction of the present invention provides a non-aqueous electrolytic secondary **battery** with which a possibility of the generation of gas is extremely low when stored at high temps. It also provides a **battery** having higher capacity, and superior cycle properties, high-rate charge/discharge properties.

IT **112336-35-3**
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary **battery** comprising composite **particles**)

RN 112336-35-3 HCAPLUS
CN Tin alloy, base, Sn 81,Si 19 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	81	7440-31-5
Si	19	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Abraham, K	1990	137	1657	Journal Electrochem	HCAPLUS
Anon	1988			JP 63-274058	HCAPLUS
Anon	1988			JP 63-276873	HCAPLUS
Anon	1991			JP 03-14054	HCAPLUS
Anon	1991			JP 03-37964	
Anon	1992			JP 04-095345	HCAPLUS
Anon	1992			JP 04-206479	HCAPLUS
Anon	1992			JP 04-242890	
Anon	1992			JP 04-249073	HCAPLUS
Anon	1992			JP 04-267053	HCAPLUS
Anon	1993			JP 05-234593	HCAPLUS
Anon	1993			JP 05-310418	HCAPLUS
Anon	1993			JP 05-62712	HCAPLUS
Anon	1994			JP 06-098473	
Anon	1994			JP 06-103976	HCAPLUS
Anon	1994			JP 06-279049	HCAPLUS
Anon	1994			JP 06-36798	HCAPLUS
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Anon	1995			JP 07-296854	HCAPLUS
Anon	1995			JP 07-315822	HCAPLUS
Anon	1996			EP 0693568	HCAPLUS
Anon	1996			JP 08-250117	HCAPLUS
Anon	1996			EP 730316 A1	HCAPLUS
Anon	1996			WO 9610538	HCAPLUS
Anon	1997			JP 09-063651	HCAPLUS
Anon	1997			JP 09-259857	HCAPLUS
Anon	1997			JP 09-63651	HCAPLUS
Anon	1998			EP 0883199	HCAPLUS
Anon	1998			JP 10-003947	HCAPLUS
Anon	1998			JP 10-208741	HCAPLUS
Anon	1998			JP 10-257687	
Anon	1998			JP 10-316426	HCAPLUS
Anon	1998			JP 10-316426	HCAPLUS
Anon	1998			JP 10-321225	HCAPLUS
Anon	1998			JP 10-36120	HCAPLUS

Anon	1998			JP 10-92424	HCAPLUS
Anon	1998			JP 10-92424	HCAPLUS
Anon	1998			WO 9807729	HCAPLUS
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Anon	2000			International Search	
Armand	1981			US 4303748 A	HCAPLUS
Armand, M	1978			Second International	
Aubyn, H	1995			US 5460903 A	HCAPLUS
Block	1998			US 5827331 A	HCAPLUS
Furukawa	1984			US 4427751 A	HCAPLUS
Gies	1997			US 5665265 A	HCAPLUS
Gilbert	1984			US 4489143 A	HCAPLUS
Goodenough	1981			US 4302518 A	HCAPLUS
Gozdz	1994			US 5296318 A	HCAPLUS
Huggins	1990			US 4950566 A	HCAPLUS
Iwamoto	1996			US 5589296 A	HCAPLUS
Iwamoto	1997			US 5677081 A	HCAPLUS
Kasamatsu	2003			US 6605386 B1	HCAPLUS
Kaun	1996			US 5536600 A	HCAPLUS
Kawakami	1998			US 5824434 A	HCAPLUS
Koyama	1985			US 4495358 A	HCAPLUS
Maccallum, J	1989		229	Polymer Electrolyte	
McManis	1986			US 4632889 A	HCAPLUS
Nishimura	1999			US 5900335 A	HCAPLUS
North	1992			US 5085952 A	HCAPLUS
Ogata, N	1990		95	Conductive Polymer,	
Ohsawa	1993			US 5223353 A	HCAPLUS
Rogier, A	1996	90	83	Solid State Ionics	
Saito	1998			US 5770333 A	HCAPLUS
Sato	1994			US 5275750 A	HCAPLUS
Shimamura	2000			US 6090505 A	HCAPLUS
Tahara	1995			US 5395711 A	HCAPLUS
Thackeray	1992			US 5160712 A	HCAPLUS
Wilson	1996			US 5587256 A	HCAPLUS
Wilson	1997			US 5624606 A	HCAPLUS

L106 ANSWER 4 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:905470 HCAPLUS Full-text
DN 141:382156
TI Method of preparation of **anode** active material for rechargeable lithium **battery**
IN Sheem, Kyou-yoon; Matsubara, Keiko; Tsuno, Toshiaki; Takamuku, Akira
PA S. Korea
SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DT **Patent**
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004214085	A1	20041028	US 2004-752300	20040106 <--
	JP 2004214054	A	20040729	JP 2003-446	20030106 <--
	JP 3827642	B2	20060927		
	KR 2004063802	A	20040714	KR 2004-262	20040105 <--
PRAI	JP 2003-446	A	20030106	<--	
	KR 2004-262	A	20040105		

AB Disclosed is a neg. active material for a lithium rechargeable **battery** which includes an aggregate of Si porous **particles** , wherein the porous **particles** are formed with a plurality of voids therein, wherein the voids have an average diameter of between 1 nm and 10 μm, and the aggregate has an average **particle** size of between 1 μm and 100 μm.

IT **71818-44-5**
RL: DEV (Device component use); USES (Uses)
(method of preparation of **anode** active material for rechargeable lithium **battery**)

RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 5 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:824217 HCAPLUS Full-text
DN 141:334883
TI Lithium secondary **battery electrode** structure including **particles** of a solid state **alloy**
IN **Kawakami, Soichiro**; Asao, Masaya; Suzuki, Nobuyuki; Yamada, Yasuhiro; Ogura, Takao
PA Canon Kabushiki Kaisha, Japan
SO PCT Int. Appl., 96 pp.
CODEN: PIXXD2
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004086539	A1	20041007	WO 2004-JP4071	20040324 <--
	WO 2004086539	B1	20041229		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2004311429	A	20041104	JP 2004-87997	20040324 <--
	EP 1604415	A1	20051214	EP 2004-723041	20040324 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	CN 1765024	A	20060426	CN 2004-80007945	20040324 <--
	TW 235517	B	20050701	TW 2004-93108147	20040325 <--
	US 2006040182	A1	20060223	US 2005-541222	20050701 <--
PRAI	JP 2003-86564	A	20030326	<--	
	WO 2004-JP4071	W	20040324		

AB The **electrode** material for a lithium secondary **battery** according to the present invention includes **particles** of a solid state **alloy** having silicon as a main component, wherein the **particles** of the solid state **alloy** have a microcrystal or amorphous material including an element other than silicon,

dispersed in microcryst. silicon or amorphized silicon. The solid state **alloy** preferably contains a pure metal or a solid solution The composition of the **alloy** preferably has an element composition in which the **alloy** is completely mixed in a melted liquid state, whereby the **alloy** has a single phase in a melted liquid state without pressure of two or more phases. The element composition can be determined by the kind of elements constituting the **alloy** and an atomic ratio of the elements.

IT **91017-73-1 519169-19-8 586417-44-9**, Silicon, tin, titanium **627102-34-5 769163-49-7 769163-50-0 769163-51-1 769163-52-2 769163-53-3 769163-54-4 769163-55-5**
RL: DEV (Device component use); USES (Uses)
(lithium secondary **battery electrode** structure including **particles** of solid state **alloy**)

RN 91017-73-1 HCAPLUS
CN Silicon alloy, base, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

RN 519169-19-8 HCAPLUS
CN Silver alloy, nonbase, Ag,Si,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Ag	7440-22-4
Si	7440-21-3
Sn	7440-31-5

RN 586417-44-9 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn,Ti (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5
Ti	7440-32-6

RN 627102-34-5 HCAPLUS
CN Silicon alloy, base, Si,Al,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Al	7429-90-5
Sn	7440-31-5

RN 769163-49-7 HCAPLUS
CN Silicon alloy, base, Si,B,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3

B	7440-42-8
Sn	7440-31-5

RN 769163-50-0 HCAPLUS
CN Silicon alloy, base, Si,Sb,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sb	7440-36-0
Sn	7440-31-5

RN 769163-51-1 HCAPLUS
CN Silicon alloy, base, Si,B,Sb,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
B	7440-42-8
Sb	7440-36-0
Sn	7440-31-5

RN 769163-52-2 HCAPLUS
CN Silicon alloy, base, Si,B,Cu,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
B	7440-42-8
Cu	7440-50-8
Sn	7440-31-5

RN 769163-53-3 HCAPLUS
CN Silicon alloy, base, Si,Al,B,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Al	7429-90-5
B	7440-42-8
Sn	7440-31-5

RN 769163-54-4 HCAPLUS
CN Silicon alloy, base, Si,Al,Sb,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Al	7429-90-5
Sb	7440-36-0
Sn	7440-31-5

RN 769163-55-5 HCAPLUS
CN Silicon alloy, base, Si,Al,B,Sb,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Al	7429-90-5
B	7440-42-8
Sb	7440-36-0
Sn	7440-31-5

IT **769163-57-7P**, Silicon 76.2, tin 10.3, titanium 13.5 (atomic)
769163-58-8P, Silicon 76.4, tin 20, titanium 3.6 (atomic)
769163-59-9P, Aluminum 6.6, silicon 74, tin 19.4 (atomic)
769163-62-4P, Aluminum 0.4, silicon 84.1, tin 11.5, titanium 4 (atomic) **769163-63-5P**, Silicon 81, tin 16.2, zinc 2.8 (atomic)
769163-65-7P, Silicon 81.8, silver 1.1, tin 17.1 (atomic)
769163-67-9P, Silicon 82.7, tin 11.3, titanium 4, zinc 2 (atomic)
769163-69-1P 769163-72-6P 769163-74-8P
769163-75-9P 769163-77-1P 769163-79-3P
769163-81-7P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(lithium secondary **battery electrode** structure including **particles** of solid state **alloy**)

RN 769163-57-7 HCAPLUS
CN Silicon alloy, base, Si 53,Sn 30,Ti 16 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	53	7440-21-3
Sn	30	7440-31-5
Ti	16	7440-32-6

RN 769163-58-8 HCAPLUS
CN Tin alloy, base, Sn 51,Si 46,Ti 3.7 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	51	7440-31-5
Si	46	7440-21-3
Ti	3.7	7440-32-6

RN 769163-59-9 HCAPLUS
CN Tin alloy, base, Sn 51,Si 46,Al 3.9 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	51	7440-31-5
Si	46	7440-21-3
Al	3.9	7429-90-5

RN 769163-62-4 HCAPLUS
CN Silicon alloy, base, Si 60,Sn 35,Ti 4.9,Al 0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	60	7440-21-3

Sn	35	7440-31-5
Ti	4.9	7440-32-6
Al	0.3	7429-90-5

RN 769163-63-5 HCAPLUS
CN Silicon alloy, base, Si 52,Sn 44,Zn 4.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	52	7440-21-3
Sn	44	7440-31-5
Zn	4.2	7440-66-6

RN 769163-65-7 HCAPLUS
CN Silicon alloy, base, Si 52,Sn 46,Ag 2.7 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	52	7440-21-3
Sn	46	7440-31-5
Ag	2.7	7440-22-4

RN 769163-67-9 HCAPLUS
CN Silicon alloy, base, Si 58,Sn 34,Ti 4.8,Zn 3.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	58	7440-21-3
Sn	34	7440-31-5
Ti	4.8	7440-32-6
Zn	3.3	7440-66-6

RN 769163-69-1 HCAPLUS
CN Silicon alloy, base, Si 62,Sn 36,B 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	62	7440-21-3
Sn	36	7440-31-5
B	2	7440-42-8

RN 769163-72-6 HCAPLUS
CN Silicon alloy, base, Si 58,Sn 34,Sb 8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	58	7440-21-3
Sn	34	7440-31-5
Sb	8	7440-36-0

RN 769163-74-8 HCAPLUS
CN Silicon alloy, base, Si 60,Sn 35,Sb 4,B 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Component	Component Percent	Component Registry Number
Si	60	7440-21-3
Sn	35	7440-31-5
Sb	4	7440-36-0
B	1	7440-42-8

RN 769163-75-9 HCAPLUS
CN Silicon alloy, base, Si 59,Sn 34,Cu 5,B 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	59	7440-21-3
Sn	34	7440-31-5
Cu	5	7440-50-8
B	2	7440-42-8

RN 769163-77-1 HCAPLUS
CN Silicon alloy, base, Si 59,Sn 34,Al 5,B 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	59	7440-21-3
Sn	34	7440-31-5
Al	5	7429-90-5
B	2	7440-42-8

RN 769163-79-3 HCAPLUS
CN Silicon alloy, base, Si 56,Sn 33,Sb 7,Al 4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	56	7440-21-3
Sn	33	7440-31-5
Sb	7	7440-36-0
Al	4	7429-90-5

RN 769163-81-7 HCAPLUS
CN Silicon alloy, base, Si 58,Sn 34,Al 5,Sb 2,B 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	58	7440-21-3
Sn	34	7440-31-5
Al	5	7429-90-5
Sb	2	7440-36-0
B	1	7440-42-8

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Matsushita Electric Ind	2002			JP 200242805 A	
Mitsubishi Marerials Co	2003			JP 2003109590 A	HCAPLUS
Sanyo Electric Co Ltd	2003			JP 200377529 A	

L106 ANSWER 6 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:802390 HCAPLUS Full-text
DN 141:280431
TI Lithium secondary **battery**
IN **Kawamura, Naoya; Kawakami, Soichiro**
PA Canon Kabushiki Kaisha, Japan
SO U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004191630	A1	20040930	US 2004-808481	20040325 <--
	JP 2004303638	A	20041028	JP 2003-96988	20030331 <--
	TW 256158	B	20060601	TW 2004-93108000	20040324 <--
	EP 1496559	A2	20050112	EP 2004-7663	20040330 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	CN 1534818	A	20041006	CN 2004-10031900	20040331 <--
	KR 2004088358	A	20041016	KR 2004-22033	20040331 <--
PRAI	JP 2003-96988	A	20030331 <--		

AB There is provided a lithium secondary **battery** with a neg. **electrode** which comprises a neg. **electrode** active material layer comprising **alloy particles** comprising silicon and tin and having an average **particle** diameter of 0.05 to 2 μm as an active material, and a neg. **electrode** current collector, wherein the neg. **electrode** active material layer has a storage capacity of 1000 to 2200 mA-h/g and a d. of 0.9 to 1.5 g/cm3 and which thereby has a high capacity and a good cycle-characteristics. Thus, a lithium secondary **battery** having a high capacity and a long life and so designed as to exhibit these characteristics at the same time is provided.

IT **71818-44-5 760979-01-9**
RL: DEV (Device component use); USES (Uses)
(improvement of capacity and cycle characteristics of lithium secondary **battery**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

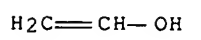
RN 760979-01-9 HCAPLUS
CN Silicon alloy, base, Si 80,Sn 15,Cu 5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	80	7440-21-3
Sn	15	7440-31-5
Cu	5	7440-50-8

IT **9002-89-5, Polyvinyl alcohol**
RL: MOA (Modifier or additive use); USES (Uses)
(improvement of capacity and cycle characteristics of lithium secondary **battery**)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



L106 ANSWER 7 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:796471 HCAPLUS Full-text
DN 141:263470
TI **Electrode** material for lithium secondary **battery**
IN Asao, Masaya; **Kawakami, Soichiro**; Ogura, Takao
PA Canon Kabushiki Kaisha, Japan
SO Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1463131	A1	20040929	EP 2004-7392	20040326 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	JP 2004311428	A	20041104	JP 2004-87996	20040324 <--
	CA 2462168	A1	20040926	CA 2004-2462168	20040326 <--
	KR 2004085035	A	20041007	KR 2004-20809	20040326 <--
	CN 1542997	A	20041103	CN 2004-10031253	20040326 <--
	US 2004248011	A1	20041209	US 2004-809483	20040326 <--
	TW 254473	B	20060501	TW 2004-93108403	20040326 <--
PRAI	JP 2003-86628	A	20030326 <--		

AB There is provided an **electrode** material for a lithium secondary **battery** which comprises **alloy particles** comprising silicon as a major component and having an average **particle** diameter of 0.02-5 μm, wherein the size of a crystallite of the **alloy** is not less than 2 nm but no more than 500 nm and an intermetallic compound containing at least tin is dispersed in a silicon phase and an **electrode** material for a lithium secondary **battery** which comprises **alloy particles** comprising silicon as a major component and having an average **particle** diameter of 0.02 μm to 5 μm, wherein the size of a crystallite of the **alloy** is not less than 2 nm but no more than 500 nm and an at least one intermetallic compound containing at least one element selected from the group consisting of aluminum, zinc, indium, antimony, bismuth and lead is dispersed in a silicon phase. Thereby, an **electrode** material for a lithium secondary **battery**, an **electrode** structure comprising the **electrode** material and a secondary **battery** comprising the **electrode** structure are provided in which a drop in capacity due to repeated charging/discharging is small, and the charge/discharge cycle life is improved.

IT **71818-44-5 519169-23-4 756497-38-8**
756497-39-9
RL: DEV (Device component use); USES (Uses)
(**electrode** material for lithium secondary **battery**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component Component
Registry Number

Component	Component Percent	Component Registry Number
Si	7440-21-3	
Sn	7440-31-5	

RN 519169-23-4 HCAPLUS
CN Silicon alloy, base, Si 65,Sn 30,Cu 5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	65	7440-21-3
Sn	30	7440-31-5
Cu	5	7440-50-8

RN 756497-38-8 HCAPLUS
CN Silicon alloy, base, Si 50,Sn 40,Co 10 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	50	7440-21-3
Sn	40	7440-31-5
Co	10	7440-48-4

RN 756497-39-9 HCAPLUS
CN Silicon alloy, base, Si 85,Sn 10,Ni 5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	85	7440-21-3
Sn	10	7440-31-5
Ni	5	7440-02-0

L106 ANSWER 8 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:252059 HCAPLUS Full-text
DN 140:256344
TI **Battery anode** compositions having an elastomeric binder and an adhesion promoter
IN Christensen, Leif
PA 3M Innovative Properties Company, USA
SO U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004058240	A1	20040325	US 2002-251067	20020920 <--
	CA 2498901	A1	20040401	CA 2003-2498901	20030820 <--
	WO 2004027898	A2	20040401	WO 2003-US26138	20030820 <--
	WO 2004027898	A3	20050127		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003258306 A1 20040408 AU 2003-258306 20030820 <--
EP 1547171 A2 20050629 EP 2003-797859 20030820 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
CN 1682393 A 20051012 CN 2003-822422 20030820 <--
JP 2006500738 T 20060105 JP 2004-537679 20030820 <--
PRAI US 2002-251067 A 20020920 <--
WO 2003-US26138 W 20030820

AB An **anode** composition is disclosed that includes an elastomeric polymer binder, a plurality of electrochem. active metal **particles** dispersed in the binder, an elec. conductive diluent, and an adhesion promoter that promotes adhesion among the **particles**, the diluent, and the binder. Also featured are lithium ion **batteries** featuring **anodes** made from these compns.

IT **71818-44-5**
RL: DEV (Device component use); USES (Uses)
(**battery anode** compns. having elastomeric binder and adhesion promoter)

RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 9 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:135049 HCAPLUS Full-text
DN 140:342044
TI Preparation of Si composite **alloys** as **anode** material for lithium **batteries** and their lithiation/delithiation mechanism in the charge/discharge processes
AU Wada, Masashi; Atarashi, Mutsumi; Yin, Jingtian; Yoshida, Seiji; Ishihara, Kouji; Tanase, Shigeo; Sakai, Tetsuo
CS Fukuda Metal Foil & Powder Co., Ltd., 20 Nakatomi-cho Nishinoyama Yamashina-ku, Kyoto, 607-8305, Japan
SO Funtai oyobi Funmatsu Yakin (**2003**), 50(12), 1084-1088
CODEN: FOFUA2; ISSN: 0532-8799
PB Funtai Funmatsu Yakin Kyokai
DT Journal
LA Japanese
AB Si-based composite **alloy powders** were prepared as **anode** materials for Li-ion **batteries** through mech. **alloying**. The Ag-Sn-Si **powders** with a size of several micrometers consisted of Si, Sn and Ag3Sn **alloy** phases. Electrochem. expts. showed that an Ag36.4Sn48Si15.6 **electrode** had better electrochem. performance than the others with respect to reversible capacity and capacity retention. It can deliver an initial capacity of .apprx.800 A-h/kg and maintain a reversible capacity of .apprx.180 A-h/kg even after 300 cycles. The structural changes of an Ag36.4Sn48Si15.6 **electrode** during cycling were examined by XRD. The composite **alloy** consisting of Si, β-Sn and Ag3Sn phases transforms mostly into a ternary lithiated phase during Li insertion and recovers a phase structure of Si, β-Sn, Ag3Sn and residual Ag2LiSn phases after Li extraction In this lithiation/delithiation process the **alloy electrode** suffers some volumetric change which is beneficial for the improvement of cycle life. This new Ag-Sn-Si composite material may be a candidate **anode** material for Li-ion **Batteries**.

IT **437651-74-6**
RL: DEV (Device component use); USES (Uses)
(preparation of Si composite **alloys** as **anode** material for lithium **batteries** and their lithiation/delithiation mechanism in charge/discharge processes)
RN 437651-74-6 HCAPLUS
CN Tin alloy, base, Sn 91,Si 9.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	91	7440-31-5
Si	9.2	7440-21-3

L106 ANSWER 10 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:922631 HCAPLUS Full-text
DN 139:384028
TI Nonaqueous electrolyte secondary **battery**
IN Shimamura, Harunari; Nitta, Yoshiaki
PA Matsushita Electric Industrial Co., Ltd., Japan
SO U.S., 13 pp., Cont.-in-part of U.S. 6,090,505.
CODEN: USXXAM
DT **Patent**
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6653019	B1	20031125	US 2001-719532	20010228 <--
	US 6090505	A	20000718	US 1998-90484	19980603 <--
	JP 2001006677	A	20010112	JP 2000-114799	20000417 <--
	JP 2001006667	A	20010112	JP 2000-114800	20000417 <--
	WO 2000063986	A1	20001026	WO 2000-JP2502	20000418 <--
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRAI	US 1998-90484	A2	19980603 <--		
	JP 1999-112073	A	19990420 <--		
	JP 1999-112074	A	19990420 <--		
	WO 2000-JP2502	W	20000418 <--		
	JP 1997-144873	A	19970603 <--		
	JP 1998-123199	A	19980506 <--		

AB A nonaq. electrolyte secondary **battery** using composite **particles** for its neg. **electrode** is disclosed. In the composite **particles**, nucleus **particles** including at least one element selected from tin, silicon, and zinc as their constituent element are entirely or partly covered with a solid solution or inter-metallic compound of the constituent element and at least one element selected from groups consisting of Group 2 elements, transition elements, and Group 12, Group 13, and Group 14 elements in the Periodic Table except for the constituent element of the nucleus **particles** and carbon. Further, the present invention is characterized in that the NMR signals of the lithium intercalated in the composite **particles** appear within the range of -10 to 40 ppm with respect to lithium chloride and at least one signal appears within the range of -10 to 4 ppm.
IT **112336-35-3**
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary **battery**)
RN 112336-35-3 HCAPLUS
CN Tin alloy, base, Sn 81,Si 19 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	81	7440-31-5
Si	19	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Abraham, K	1990	137	1657	Journal Electrochem	HCAPLUS
Anon	1988			JP 63-274058	HCAPLUS
Anon	1988			JP 63-276873	HCAPLUS
Anon	1991			JP 03-037964	
Anon	1991			JP 03-14054	HCAPLUS
Anon	1992			JP 04-206479	HCAPLUS
Anon	1992			JP 04-242890	
Anon	1992			JP 04-249073	HCAPLUS
Anon	1992			JP 04-267053	HCAPLUS
Anon	1992			JP 04-95345	HCAPLUS
Anon	1993			JP 05-234593	HCAPLUS
Anon	1993			JP 05-310418	HCAPLUS
Anon	1993			JP 05-62712	HCAPLUS
Anon	1994			JP 06-103976	HCAPLUS
Anon	1994			JP 06-279049	HCAPLUS
Anon	1994			JP 06-36798	HCAPLUS
Anon	1994			JP 06-98473	
Anon	1994			EP 0693568	HCAPLUS
Anon	1995			JP 07-240201	HCAPLUS
Anon	1995			JP 07-296854	HCAPLUS
Anon	1995			JP 07-315822	HCAPLUS
Anon	1996			EP 0730316	HCAPLUS
Anon	1996			JP 08-250117	HCAPLUS
Anon	1996			WO 9610538	HCAPLUS
Anon	1997			JP 09-063651	HCAPLUS
Anon	1997			JP 09-063651	HCAPLUS
Anon	1997			JP 09-259857	HCAPLUS
Anon	1998			EP 0883199	HCAPLUS
Anon	1998			JP 10-208741	HCAPLUS
Anon	1998			JP 10-257687	
Anon	1998			JP 10-316426	HCAPLUS
Anon	1998			JP 10-321225	HCAPLUS
Anon	1998			JP 10-36120	HCAPLUS
Anon	1998			JP 10-3947	HCAPLUS
Anon	1998			JP 10-92424	HCAPLUS
Anon	1998			WO 9807729	HCAPLUS
Anon	1999			JP 11-135120	HCAPLUS
Anon	1999			JP 11-185753	HCAPLUS
Anon	1999			JP 11-297311	HCAPLUS
Anon	2000			JP 2000030703	HCAPLUS
Anon	2000			Japanese search repo	
Armand	1981			US 4303748 A	HCAPLUS
Armand, M	1978			Second Intl Meeting	
Block	1998			US 5827331 A	HCAPLUS
Furukawa	1984			US 4427751 A	HCAPLUS
Gies	1997			US 5665265 A	HCAPLUS
Gilbert	1984			US 4489143 A	HCAPLUS
Goodenough	1981			US 4302518 A	HCAPLUS
Gozdz	1994			US 5296318 A	HCAPLUS
Hubbard	1995			US 5460903 A	HCAPLUS

Huggins	1990			US 4950566 A	HCAPLUS
Iwamoto	1996			US 5589296 A	HCAPLUS
Iwamoto	1997			US 5677081 A	HCAPLUS
Kaun	1996			US 5536600 A	HCAPLUS
Kawakami	1998			US 5824434 A	HCAPLUS
Koyama	1985			US 4495358 A	HCAPLUS
Maccallum, J	1989		229	Polymer Electrolyte	
McManis	1986			US 4632889 A	HCAPLUS
Nishimura	1999			US 5900335 A	HCAPLUS
North	1992			US 5085952 A	HCAPLUS
Ogata, N	1990		95	Conductive Polymer,	
Ohsawa	1993			US 5223353 A	HCAPLUS
Rogier, A	1996	90	83090	Solid State Ionics	
Saito	1998			US 5770333 A	HCAPLUS
Sato	1994			US 5275750 A	HCAPLUS
Shimamura	2000			US 6090505 A	HCAPLUS
Tahara	1995			US 5395711 A	HCAPLUS
Thackeray	1992			US 5160712 A	HCAPLUS
Wilson	1996			US 5587256 A	HCAPLUS
Wilson	1997			US 5624606 A	HCAPLUS

L106 ANSWER 11 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:815403 HCAPLUS Full-text
DN 139:325950
TI Negative **electrode** for secondary electrical **battery**
IN Yamamoto, Hironori; Miyaji, Mariko; Sakauchi, Hiroshi; Mori, Mitsuhiro; Iriyama, Jiro; Shirakata, Masato
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003297341	A	20031017	JP 2002-97997	20020329 <--
PRAI JP 2002-97997		20020329 <--		

AB The title **battery** is characterized by being able to eliminate the deterioration of **battery** property and loss of energy d. The **battery** comprises a neg. elec. collector, a C neg. **electrode**, a pos. elec. collector, pos. **electrode** active material containing Mn, and a separator. A Mn capture layer is coated on the C neg. **electrode** to avoid the **battery** deterioration due to Mn. The Mn capture layer consists a second layer made of silicon, Sn, and a metal element and a first layer of the metal oxide. The Mn capture layer is also capable of absorbing and releasing Li.
IT **103289-29-8**, Tin silicide
RL: DEV (Device component use); USES (Uses)
(secondary elec. **battery**; neg. **electrode** having Mn capture layer for secondary elec. **battery**)
RN 103289-29-8 HCAPLUS
CN Tin silicide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
Sn	x	7440-31-5
Si	x	7440-21-3

L106 ANSWER 12 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:801658 HCAPLUS Full-text
DN 140:62218
TI Large-volume-change **electrodes** for Li-ion **batteries** of amorphous **alloy particles** held by elastomeric tethers
AU Chen, Zonghai; Christensen, L.; Dahn, J. R.
CS Department of Chemistry, Dalhousie University, Halifax, NS, B3H 3J5, Can.
SO Electrochemistry Communications (**2003**), 5(11), 919-923
CODEN: ECCMF9; ISSN: 1388-2481
PB Elsevier Science B.V.
DT Journal
LA English
AB New **electrode** materials based on amorphous **alloys** have been proposed to replace the graphite-based **anode** materials for Li-ion **batteries**. These **alloys** undergo big reversible volume expansions as Li is added and removed electrochem. If the **alloy particles** in the **electrode** are bound to one another and to the current collector by an elastomeric binder, good capacity retention vs. cycle number, in spite of a 125% volume expansion and contraction, is possible. To obtain the required mech. properties, the elastomeric polymer binder is crosslinked and also bonded to the **electrode particles** using a surface coupling agent. A stable sp. capacity of .apprx.800 mA-h/g in a-Si0.64Sn0.36, corresponding to a 125% volume change, was obtained with a poly(vinylidene fluoride-tetrafluoroethylene-propylene)-based elastomeric binder system. Further optimization of the binder system is possible.
IT **113320-53-9**, Silicon 64, tin 36 (atomic)
RL: DEV (Device component use); USES (Uses)
(**anode**; volume-change silicon tin **particle** **anodes** for Li-ion **batteries** bonded by elastomeric tethers)
RN 113320-53-9 HCAPLUS
CN Tin alloy, base, Sn 70,Si 30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	70	7440-31-5
Si	30	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Beaulieu, L	2003	150	A419	J Elctrochem Soc	HCAPLUS
Beaulieu, L				J Electrochem Soc (i	
Chen, Z	2003	150	A1073	J Electrochem Soc	HCAPLUS
Fang, L	2001	97-98	181	J Power Sources	HCAPLUS
Green, M	2003	6	A75	Electrochem Solid-St	HCAPLUS
Mao, O	1999	2	A3	Electrochem Solid-St	
Sayamasa, K	2002		P52	Proceedings of the 1	
Song, S	2003	150	A121	J Electrochem Soc	HCAPLUS
Wang, Y	2003	6	A19	Electrochem Solid-St	HCAPLUS
Yang, J	1999	146	4009	J Electrochem Soc	HCAPLUS
Yang, J	2000	133	189	Solid State Ionics	HCAPLUS

L106 ANSWER 13 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:516237 HCAPLUS Full-text
DN 139:263242
TI Comparison of PVDF and PVDF-TFE-P as Binders for **Electrode** Materials Showing Large Volume Changes in Lithium-Ion **Batteries**
AU Chen, Zonghai; Christensen, L.; Dahn, J. R.
CS Department of Chemistry, Dalhousie University, Halifax, Nova Scotia, B3H

3J5, Can.
SO Journal of the Electrochemical Society (2003), 150(8), A1073-A1078
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
AB The mech. and elec. properties of a terpolymer, poly(vinylidene fluoride-tetrafluoroethylene-propylene) (PVDF-TFE-P, BRE 7131X, Dyneon Corp.) and its carbon black-filled composites (without active **anode** material) were studied carefully and are compared to those of PVDF (Solef 1008). High capacity **anode** materials such as a-Si and a-Si0.64Sn0.36 have up to 250% volumetric changes during charge/discharge cycling which challenges the mech. properties of standard binders used in Li-ion **battery electrodes**. The measurements were carried out on dry polymer films and on films immersed in a nonaq. solvent commonly used in Li-ion cells (ethylene carbonate/diethyl carbonate, EC/DEC, 1:2 by volume). PVDF and its carbon-filled composites show a maximum elongation before break of <10%. However, triethylenetetramine crosslinked BRE 7131X and its carbon-filled composites can be stretched to >100% strain before breaking in air and in EC/DEC (1:2 by volume). Also, the stress and the resistivity of the carbon-filled crosslinked BRE 7131X films changes reversibly during elongation/contraction cycles.
IT **113320-53-9**
RL: DEV (Device component use); USES (Uses)
(composites with BRE-7131X and Super S carbon black; comparison of PVDF and PVDF-TFE-P as binders for **electrode** materials showing large volume changes in lithium-ion **batteries**)
RN 113320-53-9 HCAPLUS
CN Tin alloy, base, Sn 70,Si 30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	70	7440-31-5
Si	30	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Beaulieu, L	2001	4	A137	Electrochem Solid-St	HCAPLUS
Beaulieu, L	2003	150	A149	J Electrochem Soc	HCAPLUS
Brousse, T	1998	145	1	J Electrochem Soc	HCAPLUS
Chen, Z				J Appl Polym Sci, Su	
Idota, Y	1997	276	1395	Science	HCAPLUS
Mao, O	1999	2	3	Electrochem Solid-St	HCAPLUS
Sheng, P	1978	40	1197	Phys Rev Lett	HCAPLUS
Ward, I	1998			An Introduction to t	
Zhang, X	2002	109	136	J Power Sources	HCAPLUS

L106 ANSWER 14 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:394219 HCAPLUS Full-text
DN 138:356272
TI Process for preparing **electrode** material for rechargeable lithium **battery**
IN Kosuzu, Takeshi; **Kawakami, Soichiro**; Asao, Masaya; Tsuzuki, Hidetoshi; Ogura, Takao; Kobayashi, Naoya
PA Canon Kabushiki Kaisha, Japan
SO Eur. Pat. Appl., 49 pp.
CODEN: EPXXDW

DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1313158	A2	20030521	EP 2002-25872	20021119 <--
	EP 1313158	A3	20040908		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	US 2003157407	A1	20030821	US 2002-300305	20021120 <--
	US 7141187	B2	20061128		
	CN 1444301	A	20030924	CN 2002-154291	20021120 <--
	TW 567633	B	20031221	TW 2002-91133844	20021120 <--
	JP 2004185810	A	20040702	JP 2002-337311	20021120 <--
	KR 2005012207	A	20050131	KR 2004-112663	20041227 <--
	US 2006237697	A1	20061026	US 2006-471689	20060621 <--
PRAI	JP 2001-355409	A	20011120 <--		
	JP 2002-299677	A	20021011 <--		
	KR 2002-72152	A3	20021120 <--		
	US 2002-300305	A3	20021120 <--		

AB An **electrode** material for a rechargeable lithium **battery** is characterized in that the **electrode** material comprises a fine **powder** of a silicon-based material whose principal component is silicon element, the fine **powder** having an average **particle** size (R) in a range of 0.1 μm ≤ R < 0.5 μm. An **electrode** structural body for a rechargeable lithium **battery**, has an **electrode** material layer comprising the silicon-based material fine **powder**. A rechargeable lithium **battery** has **anode** comprising the **electrode** structural body.

IT **100789-35-3 189830-88-4 519169-19-8**
519169-21-2 519169-22-3
RL: DEV (Device component use); USES (Uses)
(process for preparing **anode** material for rechargeable lithium **battery**)

RN 100789-35-3 HCAPLUS
CN Copper alloy, nonbase, Cu,Si,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Cu	7440-50-8
Si	7440-21-3
Sn	7440-31-5

RN 189830-88-4 HCAPLUS
CN Nickel alloy, nonbase, Ni,Si,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Ni	7440-02-0
Si	7440-21-3
Sn	7440-31-5

RN 519169-19-8 HCAPLUS
CN Silver alloy, nonbase, Ag,Si,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Ag	7440-22-4
Si	7440-21-3

Sn	7440-31-5

RN 519169-21-2 HCAPLUS
CN Cobalt alloy, nonbase, Co,Si,Sn (9CI) (CA INDEX NAME)

Component	Component Registry Number
Co	7440-48-4
Si	7440-21-3
Sn	7440-31-5

RN 519169-22-3 HCAPLUS
CN Silicon alloy, base, Si 50-90,Sn 9-49 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	50 - 90	7440-21-3
Sn	9 - 49	7440-31-5

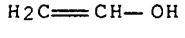
IT **519169-23-4P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(process for preparing **anode** material for rechargeable lithium **battery**)
RN 519169-23-4 HCAPLUS
CN Silicon alloy, base, Si 65,Sn 30,Cu 5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	65	7440-21-3
Sn	30	7440-31-5
Cu	5	7440-50-8

IT **9002-89-5, Polyvinyl alcohol**
RL: MOA (Modifier or additive use); USES (Uses)
(process for preparing **anode** material for rechargeable lithium **battery**)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



L106 ANSWER 15 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:203339 HCAPLUS Full-text
DN 138:213783
TI Si-based resonant interband tunneling diodes and method of making interband tunneling diodes
IN Berger, Paul R.; Thompson, Phillip E.; Lake, Roger; Hobart, Karl; Rommel,

Sean L.
PA University of Delaware, USA
SO U.S. Pat. Appl. Publ., 37 pp., Division of U.S. Ser. No. 565,455.
CODEN: USXXCO
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003049894	A1	20030313	US 2001-934334	20010821 <--
	US 6803598	B1	20041012	US 2000-565455	20000505 <--
PRAI	US 1999-133067P	P	19990507 <--		
	US 2000-565455	A3	20000505 <--		

AB Interband tunnel diodes which are compatible with Si-based processes such as, but not limited to, CMOS and Si-Ge HBT fabrication. Interband tunnel diodes are disclosed (i) with spacer layers surrounding a tunnel barrier; (ii) with a quantum well adjacent to, but not necessarily in contact with, one of the injectors, and (iii) with a 1st quantum well adjacent to, but not necessarily in contact with, the bottom injector and a 2nd quantum well adjacent to, but not necessarily in contact with, the top injector. Process parameters include temperature process for growth, deposition or conversion of the tunnel diode and subsequent thermal cycling which to improve device benchmarks such as peak c.d. and the peak-to-valley current ratio.
IT **62795-20-4**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(silicon-based resonant interband tunneling diodes and method of fabrication using)
RN 62795-20-4 HCAPLUS
CN Silicon alloy, base, Si 0-100,Sn 0-100 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	0 - 100	7440-21-3
Sn	0 - 100	7440-31-5

L106 ANSWER 16 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:141752 HCAPLUS Full-text
DN 138:176418
TI Investigation into the stability of AIVBIV thin solid films
AU Korolyuk, Yu. G.; Deibuk, V. G.
CS Chernivtsi National University, Kicmany, 59300, Ukraine
SO Latvian Journal of Physics and Technical Sciences (2002), (5), 37-49
CODEN: LJPSED; ISSN: 0868-8257
PB Latvian Journal of Physics and Technical Sciences
DT Journal
LA English
AB Structural and thermodn. properties of IV-IV solid solns. are studied by mol. dynamics simulation. In particular, biaxial strains, which are extremely important to explain the miscibility behavior of **alloy** films, are examined It is shown that there exists a critical thickness for GexSi1-x, Ge1-xSnx, Si1-xSnx, and Si1-xCx thin solid films. The results of the classical mol. dynamic simulations are in good agreement with exptl. data and other ab initio calcns. The layer thickness is shown to have great influence on the miscibility gap.
IT **62795-20-4**
RL: PRP (Properties)
(mol. dynamics simulation of structural and thermodn. properties of

AIVBIV thin solid films)
RN 62795-20-4 HCAPLUS
CN Silicon alloy, base, Si 0-100,Sn 0-100 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	0 - 100	7440-21-3
Sn	0 - 100	7440-31-5

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Beanland, R	1996	45	87	Adv Phys	HCAPLUS
Bolhovitanov, Y	2000	171		Uspehi Fizicheskih N	
Cressler, J	1998	46	572	IEEE Trans Micro The	HCAPLUS
Deibuk, V	2001	35	298	Semiconductor	
Demkov, A	1992	48	2207	Phys Rev B	
Gould, H	1988			An Introduction to C	
Gould, H	1990			An Introduction to C	
Gurdal, O	1998	83	162	J Appl Phys	HCAPLUS
Iyer, S	1991		581	MRS Symposia proceed	
Jain, S	1994			Germanium-Silicon St	
Khan, A	1996	68	3105	Appl Phys Lett	HCAPLUS
Linear, C	1999	203	511	J Crystal Growth	
Mader, K	1989	69	1123	Solid State Communs	
Mezon, U	1968			Dynamics of Lattice	
Pandey, R	2000	88	6462	J Appl Phys	HCAPLUS
People, R	1984	45	1231	Appl Phys Lett	
Posthil, J	1990	56	734	Appl Phys Lett	
Soma, T	1988	147	109	Phys Stat Sol (b)	HCAPLUS
Soref, R	1991	69	539	J Appl Phys	HCAPLUS
Soref, R	1993	14	189	Superlattices Micros	HCAPLUS
Stringfellow, G	1982	11	903	J Phys Chem Solid	HCAPLUS
Tersoff, J	1989	39	5566	Phys Rev B	
Walle, C	1986	34	5621	Phys Rev B	

L106 ANSWER 17 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:97208 HCAPLUS Full-text
DN 138:156268
TI **Anode** for secondary lithium **battery** and its manufacture
IN Kajita, Osamu; Nishida, Motonori; Yamamoto, Koichi; Tanigawa, Ryuichi; Onishi, Toshiki; Masuoka, Sachiko; Yoshinaga, Hiroshi; Sakai, Tetsuo
PA Fukuda Metal Foil and Powder Co., Ltd., Japan; National Institute of Advanced Industrial Science and Technology
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003036840	A	20030207	JP 2001-321626	20011019 <--
PRAI JP 2001-148580	A	20010518 <--		

AB The **anode** has a Sn or Sn **alloy** active mass on 1 or both side of a Cu collector; where Cu is compatibilizing with Sn or the Sn **alloy**, forming an **alloy** phase in the interface of the collector and the active mass. The **anode** is prepared by hot dipping the Sn or Sn **alloy** active mass on 1 or both side of

the Cu collector, and heating at 200 -600° in a nonoxidizing gas atmospheric to form the **alloy** phase in the interface of the collector and the active mass.

IT **495504-67-1**
RL: DEV (Device component use); USES (Uses)
(structure and manufacture of **anodes** containing **alloy** phase interface between Sn or Sn **alloy** active mass and Cu collectors for secondary Li **batteries**)

RN 495504-67-1 HCAPLUS
CN Tin alloy, base, Sn 99,Si 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	99	7440-31-5
Si	1	7440-21-3

L106 ANSWER 18 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:46133 HCAPLUS Full-text
DN 138:356096
TI The electrochemical reaction of Li with amorphous Si-Sn **alloys**
AU Beaulieu, L. Y.; Hewitt, K. C.; Turner, R. L.; Bonakdarpour, A.; Abdo, A. A.; Christensen, L.; Eberman, K. W.; Krause, L. J.; Dahn, J. R.
CS Department of Physics, Dalhousie University, Halifax, Nova Scotia, B3H 3J5, Can.
SO Journal of the Electrochemical Society (**2003**), 150(2), A149-A156
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
AB Si1-x Snx samples for 0<x<0.5 were prepared by magnetron sputtering using a combinatorial materials science approach. The room-temperature resistivity and X-ray diffraction (XRD) patterns of the samples were used to select materials having both an amorphous structure and good conductivity for further study. The reaction of lithium with amorphous Si0.66Sn0.34 was then studied by electrochem. methods and by in situ XRD. The **electrode** material apparently remains amorphous throughout all portions of the charge and discharge profile, in the range 0<x<4.4 in LixSi0.66Sn0.34. No crystalline phases are formed, unlike the situation when lithium reacts with tin. Using the Debye scattering formalism, we show that the XRD patterns of the a-Si0.66Sn0.34 starting material and a-Li4.4Si0.66Sn0.34 can be explained by the same local atomic arrangements as found in crystalline Si and Li4.4Si or Li4.4Sn, resp. In fact, the in situ XRD patterns of a-LixSi0.66Sn0.34, for any x, can be well approximated by a linear combination of the patterns for x=0 and x=4.4. This suggests that predominantly only two local environments for Si and Sn are found at any value of x in a-LixSi0.66Sn0.44. However, based on differential capacity vs. potential results for Li/a-Si0.66Sn0.34 there is no evidence for two-phase regions during the charge and discharge profile. Thus, the two local environments must appear at random throughout the **particles** . We speculate that the charge-discharge hysteresis in the voltage-capacity profile of Li/a-LixSi0.66Sn0.34 cells is caused by the energy dissipated during the changes in the local atomic environment around the host atoms.

IT **112315-74-9**, Silicon 60, tin 40 (atomic) **113320-53-9**, Silicon 64, tin 36 (atomic) **116520-51-5**, Silicon 47, tin 53 (atomic) **518302-62-0**, Silicon 66, tin 34 (atomic)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**battery electrodes**; electrochem. reaction of Li with amorphous Si-Sn **alloys** for **battery**

electrodes)

RN 112315-74-9 HCAPLUS
CN Tin alloy, base, Sn 74,Si 26 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	74	7440-31-5
Si	26	7440-21-3

RN 113320-53-9 HCAPLUS
CN Tin alloy, base, Sn 70,Si 30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	70	7440-31-5
Si	30	7440-21-3

RN 116520-51-5 HCAPLUS
CN Tin alloy, base, Sn 83,Si 17 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	83	7440-31-5
Si	17	7440-21-3

RN 518302-62-0 HCAPLUS
CN Tin alloy, base, Sn 69,Si 31 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	69	7440-31-5
Si	31	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Beaulieu, L	2001	4	9	Electrochem Solid-St	
Boukamp, B	1981	128	725	J Electrochem Soc	HCAPLUS
Courtney, I	1998	58	23	Phys Rev B	
Dahn, J	1998	111	289	Solid State Ionics	HCAPLUS
Kittel, C	1996			Introduction to Soli	
Maruyama, T	1997	144	4350	J Electrochem Soc	HCAPLUS
Richard, M	1997	144	554	J Electrochem Soc	HCAPLUS
Turner, R	2000			WO 00/03444	HCAPLUS
Winter, M	2000	45	31	Electrochim Acta	

L106 ANSWER 19 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:795980 HCAPLUS Full-text
DN 138:29599
TI Measuring thickness changes in thin films due to chemical reaction by monitoring the surface roughness with in situ atomic force microscopy
AU Beaulieu, L. Y.; Rutenberg, A. D.; Dahn, J. R.
CS Physics Department, Dalhousie University, Halifax, NS, B3H 3J5, Can.
SO Microscopy and Microanalysis (2002), 8(5), 422-428
CODEN: MIMIF7; ISSN: 1431-9276

PB Cambridge University Press
DT Journal
LA English
AB Measuring the changing thickness of a thin film, without a reference, using an atomic force microscope (AFM) is problematic. Here, we report a method for measuring film thickness based on in situ monitoring of surface roughness of films as their thickness changes. For example, in situ AFM roughness measurements have been performed on **alloy** film **electrodes** on rigid substrates as they react with lithium electrochem. The addition (or removal) of lithium to (or from) the **alloy** causes the latter to expand (or contract) reversibly in the direction perpendicular to the substrate and, in principle, the change in the overall height of these materials is directly proportional to the change in roughness. If the substrate on which the film is deposited is not perfectly smooth, a correction to the direct proportionality is needed and this is also discussed.
IT **122168-06-3**, Silicon 70, tin 30 (atomic)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(films; measuring thickness changes in thin films due to chemical reaction by monitoring the surface roughness with in situ atomic force microscopy)
RN 122168-06-3 HCAPLUS
CN Tin alloy, base, Sn 64,Si 36 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	64	7440-31-5
Si	36	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Beaulieu, L	2001	4	A137	Electrochem Solid St	HCAPLUS
Beaulieu, L	2000	147	3206	J Electrochem Soc	HCAPLUS
Beaulieu, L	2001	72	3313	Rev Sci Instrum	HCAPLUS
Dongmo, S	1998	66	S819	Appl Phys A	HCAPLUS
Groisman, A	1994	25	415	Europhys Lett	HCAPLUS
Haering, P	1995	385	273	J Electroanal Chem	HCAPLUS
Idota, Y	1997	276	1395	Science	HCAPLUS
Kitsunezaki, S	1999	60	6449	Phys Rev E	HCAPLUS
Kowal, A	1996	12	2332	Langmuir	HCAPLUS
Manne, S	1991	251	183	Science	HCAPLUS
Mao, O	1999	146	405	J Electrochem Soc	HCAPLUS
Quate, C	1994	299	980	Surf Sci	
Turner, R	2000			World Intellectual P	
Yang, J	1996	90	281	Solid State Ionics	HCAPLUS

L106 ANSWER 20 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:158133 HCAPLUS Full-text
DN 136:209112
TI Doped elongated semiconductors, growing such semiconductors, devices including such semiconductors, and fabricating such devices
IN Lieber, Charles M.; Cui, Ying; Duan, Xiangfeng; Huang, Yung-Sheng
PA President and Fellows of Harvard College, USA
SO PCT Int. Appl., 173 pp.
CODEN: PIXXD2
DT **Patent**
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002017362	A2	20020228	WO 2001-US26298	20010822 <--
	WO 2002017362	A8	20021121		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2417992	A1	20020228	CA 2001-2417992	20010822 <--
	AU 200186649	A	20020304	AU 2001-86649	20010822 <--
	US 2002130311	A1	20020919	US 2001-935776	20010822 <--
	EP 1314189	A2	20030528	EP 2001-966109	20010822 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004507104	T	20040304	JP 2002-521336	20010822 <--
	CN 1550030	A	20041124	CN 2001-816168	20010822 <--
	EP 1736760	A2	20061227	EP 2006-121157	20011211 <--
	R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, AL, BA, HR, MK, YU				
	AU 2002324426	A1	20030121	AU 2002-324426	20020520 <--
	JP 2004535066	T	20041118	JP 2003-511316	20020520 <--
	US 2006054936	A1	20060316	US 2004-12549	20041215 <--
	US 2005164432	A1	20050728	US 2005-82372	20050317 <--
	US 7211464	B2	20070501		
	US 2006175601	A1	20060810	US 2005-172408	20050630 <--
	US 2007026645	A1	20070201	US 2006-543326	20061004 <--
	US 2007032051	A1	20070208	US 2006-543336	20061004 <--
	US 2007032023	A1	20070208	US 2006-543352	20061004 <--
	US 2007032052	A1	20070208	US 2006-543746	20061004 <--
	US 2007048492	A1	20070301	US 2006-543337	20061004 <--
PRAI	US 2000-226835P	P	20000822 <--		
	US 2000-254745P	P	20001211 <--		
	US 2001-291896P	P	20010518 <--		
	US 2001-292035P	P	20010518 <--		
	US 2001-292045P	P	20010518 <--		
	US 2001-292121P	P	20010518 <--		
	US 2001-935776	A	20010822 <--		
	WO 2001-US26298	W	20010822 <--		
	US 2001-348313P	P	20011109 <--		
	EP 2001-990181	A3	20011211 <--		
	US 2001-20004	A	20011211 <--		
	US 2002-354642P	P	20020206 <--		
	US 2002-152490	B2	20020520 <--		
	WO 2002-US16133	W	20020520 <--		
	US 2002-196337	A1	20020716 <--		
	US 2003-720020	B1	20031121		
	US 2005-58443	B1	20050214		
	US 2005-82372	A1	20050317		

AB A bulk-doped semiconductor that is at least one of the following: a single crystal, an elongated and bulk-doped semiconductor that, at any point along its longitudinal axis, has a largest cross-sectional dimension <500 nm, and a free-standing and bulk-doped semiconductor with at least one portion having a smallest width of <500 nm. Such a semiconductor may comprise an interior core comprising a 1st semiconductor; and an exterior shell comprising a different material than the 1st semiconductor. Such a semiconductor may be elongated

and may have, at any point along a longitudinal section of such a semiconductor, a ratio of the length of the section to a longest width which is >4:1, or >10:1, or >100:1, or even >1000:1. At least one portion of such a semiconductor may a smallest width of <200 nm, or <150 nm, or <100 nm, or <80 nm, or <70 nm, or <60 nm, or <40 nm, or <20 nm, or <10 nm, or even <5 nm. Such a semiconductor may be a single crystal and may be free-standing. Such a semiconductor may be either lightly n-doped, heavily n-doped, lightly p-doped or heavily p-doped. Such a semiconductor may be doped during growth. Such a semiconductor may be part of a device, which may include any of a variety of devices and combinations thereof, and a variety of assembling techniques may be used to fabricate devices from such a semiconductor. Two or more of such a semiconductors, including an array of such semiconductors, may be combined to form devices, for example, to form a crossed p-n junction of a device. Such devices at certain sizes may exhibit quantum confinement and other quantum phenomena, and the wavelength of light emitted from one or more of such semiconductors may be controlled by selecting a width of such semiconductors. Such semiconductors and device made therefrom may be used for a variety of applications.

IT **71818-44-5**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(preparation of elongated doped semiconductor for devices)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 21 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:796591 HCAPLUS Full-text
DN 135:346872
TI **Anode** active mass for secondary nonaqueous electrolyte **batteries** and its manufacture
IN Takeshita, Yukiteru; Kamishiro, Koichi; Negi, Noriyuki; Uenaka, Hideya; Kohiyori, Motoji; Nitta, Yoshiaki; Shimamura, Harushige; Okamura, Kazuhiro
PA Sumitomo Metal Industries, Ltd., Japan; Matsushita Electric Industrial Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001307723	A	20011102	JP 2000-118648	20000419 <--
PRAI JP 2000-118648		20000419 <--		

AB The **anode** active mass contains an **alloy** having a 1st group of phases of elements, capable of reversibly bonding with Li, and a 2nd group of phases containing ≥1 element in the 1st group and ≥1 Group IIA, IIIA, IVA and transition metals, and contains Li added before the solidification of the **alloy**. The active mass is prepared by adding a Li source to a melt of the **alloy** components and solidifying the **alloy**.

IT **71818-44-5**
RL: MSC (Miscellaneous)
(structure and manufacture of multiphase lithium **alloying**

anode active mass for secondary lithium **batteries**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 22 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:780558 HCAPLUS Full-text
DN 135:346844
TI **Anode** active mass for secondary nonaqueous **batteries** and its manufacture
IN Takeshita, Yukiteru; Negi, Noriyuki; Yamamoto, Hiroyoshi; Kohiyori, Motoji; Yonemura, Koji; Nitta, Yoshiaki; Shimamura, Harushige
PA Sumitomo Metal Industries, Ltd., Japan; Matsushita Electric Industrial Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001297757	A	20011026	JP 2000-113912	20000414 <--
PRAI JP 2000-113912		20000414 <--		

AB The **anode** active mass has a 1st part containing ≥1 Li intercalating metal (M) phase, and a 2nd part containing ≥1 phases of intermetallic compds. or solid solns. of M with >1 non-M elements selected from Group 2, transition metal, and Group 13-15 elements or the non-M element alone; where a portion of the 2nd part has a granular and/or an acicular structure, and a portion of the 2nd part is surrounded by a layered structure of the 2 parts or by the 1st part or the 1st part in a fine granular structure. The **anode** active mass is prepared by a rapidly solidifying melted composition at ≥100°/s.
IT **158616-16-1P**, Tin silicide (SnSi2)
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(compns. and structure and manufacture of multiphase **anode** active mass for secondary lithium **batteries**)
RN 158616-16-1 HCAPLUS
CN Tin silicide (SnSi2) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
Sn	1	7440-31-5
Si	2	7440-21-3

L106 ANSWER 23 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:773655 HCAPLUS Full-text
DN 136:93979
TI Direct energy gap group IV semiconductor **alloys** and quantum dot arrays in SnxGe1-x/Ge and SnxSi1-x/Si **alloy** systems
AU Ragan, Regina; Min, Kyu S.; Atwater, Harry A.
CS Thomas J. Watson Laboratory of Applied Physics, California Institute of

Technology, Pasadena, CA, 91125, USA
SO Materials Science & Engineering, B: Solid-State Materials for Advanced Technology (2001), B87(3), 204-213
CODEN: MSBTEK; ISSN: 0921-5107
PB Elsevier Science S.A.
DT Journal
LA English
AB The narrow gap semiconductor **alloys** SnxGe1-x and SnxSi1-x offer the possibility for engineering tunable direct energy gap Group IV semiconductor materials. For pseudomorphic SnxGe1-x **alloys** grown on Ge (001) by MBE, an indirect-to-direct bandgap transition with increasing Sn composition is observed, and the effects of misfit on the bandgap analyzed in terms of a deformation potential model. Key results are that pseudomorphic strain has only a very slight effect on the energy gap of SnxGe1-x **alloys** grown on Ge (001) but for SnxGe1-x **alloys** grown on Ge (111) no indirect-to-direct gap transition is expected. In the SnxSi1-x system, ultrathin pseudomorphic epitaxially-stabilized α-SnxSi1-x **alloys** are grown on Si (001) substrates by conventional MBE. Coherently strained α-Sn quantum dots are formed within a defect-free Si (001) crystal by phase separation of the thin SnxSi1-x layers embedded in Si (001). Phase separation of the thin **alloy** film, and subsequent evolution occurs via growth and coarsening of regularly-shaped α-Sn quantum dots that appear as 4-6 nm diameter tetrakaidecahedra with facets oriented along elastically soft <100> directions. Attenuated total reflectance IR absorption measurements indicate an absorption feature due to the α-Sn quantum dot array with onset at .apprx.0.3 eV and absorption strength of 8 + 103 cm-1, which are consistent with direct interband transitions.
IT **71818-44-5P**
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(direct energy gap group IV semiconductor **alloys** and quantum dot arrays in SnxGe1-x/Ge and SnxSi1-x/Si **alloy** systems)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Apetz, R	1995	66	445	Appl Phys Lett	HCAPLUS
Bardeen, J	1950	80	72	Phys Rev	HCAPLUS
Eaglesham, D	1993	70	1643	Phys Rev Lett	HCAPLUS
Hasegawa, H	1963	129	1029	Phys Rev	
He, G	1997	79	1937	Phys Rev Lett	HCAPLUS
Herring, C	1956	101	944	Phys Rev	HCAPLUS
Jenkins, D	1987	36	7994	Phys Rev B	HCAPLUS
Kang, N	1998	67	2439	J Phys Soc Jpn	HCAPLUS
Kleiner, W	1959	2	334	Phys Rev Lett	HCAPLUS
Krishnamurty, M	1991	69	6461	J Appl Phys	
Min, K	1998	72	1884	Appl Phys Lett	HCAPLUS
People, R	1985	32	1405	Phys Rev	HCAPLUS
Pikus, G	1959	1	1642	Fiz Tverd Tela	HCAPLUS
Pikus, G	1960	1	1502	Sov Phys Solid State	
Pollak, F	1968	172	816	Phys Rev	HCAPLUS

Ragan, R	2000	77	3418	Appl Phys Lett	HCAPLUS
Soref, R	1991	69	539	J Appl Phys	HCAPLUS
Sunamura, H	1995	66	3024	Appl Phys Lett	HCAPLUS
Swalin, R	1972		141	Thermodynamics of So	
Wegscheider, W	1992	123	75	J Cryst Growth	HCAPLUS
Zinke-Allmang, M	1992	16	377	Sur Sci Rep	HCAPLUS

L106 ANSWER 24 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:763375 HCAPLUS Full-text
DN 135:320488
TI Secondary nonaqueous electrolyte **batteries**
IN Nitta, Yoshiaki; Bito, Yasuhiko; Sato, Toshitada; Okamura, Kazuhiro; Shimamura, Harunari
PA Matsushita Electric Industrial Co., Ltd., Japan
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001078167	A1	20011018	WO 2001-JP2842	20010330 <--
	W: CN, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	JP 2001291512	A	20011019	JP 2000-103039	20000405 <--
	EP 1274140	A1	20030108	EP 2001-917771	20010330 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	US 2003039891	A1	20030227	US 2002-129240	20020501 <--
PRAI	JP 2000-103039	A	20000405 <--		
	WO 2001-JP2842	W	20010330 <--		

AB The **batteries** have a nonaq. electrolyte solution, separators, Li intercalating **cathodes**, and Li intercalating **anodes**; where the **anode** active mass **particles** have a core of a 1st solid phase containing Si, Sn, and/or Zn, a shell of a 2nd solid phase of a solid solution or an intermetallic compound of the 1st phase component and ≥1 of Si, Sn, Zn, and Group 2-14 elements other than C, with the 1st and/or 2nd phase being amorphous.
IT **71818-44-5**
RL: DEV (Device component use); USES (Uses)
(**anode** active mass **particles** with intermetallic compound or solid solution shells for secondary lithium **batteries**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Asahi Chemical Industry	1998			JP 10223221 A	HCAPLUS
Hitachi Maxell Ltd	1988			JP 6313267 A	
Matsushita Electric Ind	2000			JP 200030703 A	
Matsushita Electric Ind	2001			JP 2001102052 A	HCAPLUS
Mitsubishi Cable Indust	1995			JP 07296812 A	HCAPLUS

L106 ANSWER 25 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:729929 HCAPLUS Full-text
DN 135:275368
TI Material for **cathode** of nonaqueous electrolyte secondary **battery**
IN Tsujimoto, Hisashi; Yamamoto, Yoshikatsu; Kuyama, Junji; Nagamine, Masayuki; Omaru, Atsuo; Tanizaki, Hiroaki
PA Sony Corp., Japan
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1139468	A1	20011004	EP 2001-108038	20010329 <--
	EP 1139468	B1	20040519		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001345101	A	20011214	JP 2001-56346	20010301 <--
	TW 492212	B	20020621	TW 2001-90107405	20010328 <--
	CN 1320980	A	20011107	CN 2001-117869	20010330 <--
	US 2002012842	A1	20020131	US 2001-822926	20010330 <--
	US 6884543	B2	20050426		
	US 2005191551	A1	20050901	US 2005-113771	20050425 <--
	US 7045251	B2	20060516		
PRAI	JP 2000-93378	A	20000330 <--		
	JP 2001-56346	A	20010301 <--		
	US 2001-822926	A1	20010330 <--		

AB Disclosed is a nonaq. electrolyte secondary **battery** having an excellent preservation characteristics at a high temperature and charging/discharging cycle characteristics. A rolled body in which a strip-shape pos. **electrode** and neg. **electrode** are rolled with a separator in-between is provided inside a **battery** can. The pos. **electrode** contains LixMn2-yMayO4 (where, Ma is at least one element selected from the group consisting of metal elements other than Mn, and B) and LiNi1-zMbzO2 (where, Mb is at least one element selected from the group consisting of metal elements other than Ni, and B). By replacing part of Mn and Ni with other elements, the crystal structure can be stabilized. Thereby, the capacity retention ratio after preservation at a high temperature, and a heavy load discharging power under a high elec. potential cutoff can be improved. The mean **particle** size of **particles** of the above-mentioned oxides are preferable to be 30 μm and below so that an excellent charging/discharging cycle characteristic can be obtained.

IT **71818-44-5**
RL: DEV (Device component use); USES (Uses)
(material for **cathode** of nonaq. electrolyte secondary **battery**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File

Koksbang, R	1999			WO 9953556 A	HCAPLUS
Koksbang, R	1999			WO 9959214 A	HCAPLUS
Pynenburg, R	1995			US 5429890 A	HCAPLUS

L106 ANSWER 26 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:692228 HCAPLUS Full-text
DN 135:259779
TI Silicon-tin-based **alloy** for **battery anode**, its manufacture by rapid cooling, and nonaqueous electrolyte secondary **battery** using it
IN Shimamura, Harushige; Nitta, Yoshiaki; Negi, Noriyuki; Uenaka, Hideya
PA Matsushita Electric Industrial Co., Ltd., Japan; Sumitomo Metal Industries, Ltd.
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001256974	A	20010921	JP 2000-65572	20000309 <--
JP 3546798	B2	20040728		
PRAI JP 2000-65572		20000309 <--		

AB The **alloy**, whose surface oxide film is removed, comprises (1) an A phase containing Si and/or Si surrounded with a B phase containing intermetallic compds. or solid solns. of Si or Sn with ≥1 other element selected from Group 2A, 3B-2B transition metal, 3A, 4A except C, and 5A elements on the long-form periodic table or (2) a Si phase surrounded with a Sn phase. The **alloy** is manufactured by (1) cooling a Si-Sn molten **alloy** at ≥100 degree/s, followed by immersing in an aqueous acidic solution The **battery** uses the above **alloy** as an **anode**. The **battery** shows high discharge capacity, energy-conversion efficiency, and long cycle life.

IT **113320-53-9 186143-06-6 253344-64-8**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of silicon-tin-based **alloy** for nonaq. electrolyte secondary **battery anode** by rapid cooling)
RN 113320-53-9 HCAPLUS
CN Tin alloy, base, Sn 70,Si 30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	70	7440-31-5
Si	30	7440-21-3

RN 186143-06-6 HCAPLUS
CN Silicon alloy, base, Si 70,Sn 30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	70	7440-21-3
Sn	30	7440-31-5

RN 253344-64-8 HCAPLUS
CN Tin alloy, base, Sn 90,Si 10 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	90	7440-31-5
Si	10	7440-21-3

L106 ANSWER 27 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:668291 HCAPLUS Full-text
DN 135:213486
TI Process for producing photoelectric conversion device
IN Sakakura, Masayuki; Arai, Yasuyuki; Yamazaki, Shunpei
PA Semiconductor Energy Laboratory Co., Ltd., Japan
SO U.S., 35 pp.
CODEN: USXXAM
DT **Patent**
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6287888	B1	20010911	US 1998-219722	19981223 <--
	JP 11195800	A	19990721	JP 1997-369413	19971226 <--
	JP 11204817	A	19990730	JP 1998-18097	19980112 <--
	JP 3490278	B2	20040126		
	JP 11204812	A	19990730	JP 1998-18099	19980112 <--
	JP 11204813	A	19990730	JP 1998-18100	19980112 <--
	US 2002000631	A1	20020103	US 2001-939768	20010828 <--
	US 6531711	B2	20030311		
PRAI	JP 1997-369413	A	19971226 <--		
	JP 1998-18097	A	19980112 <--		
	JP 1998-18099	A	19980112 <--		
	JP 1998-18100	A	19980112 <--		
	US 1998-219722	A3	19981223 <--		

AB The productivity of a photoelec. conversion device is increased by sep. conducting a step of forming a microcryst. semiconductor film and an amorphous semiconductor film without adding an impurity gas. In a process for producing a photoelec. conversion device comprising a substrate having thereon one or plural unit cells comprising a first **electrode**, a photoelec. conversion layer, and a second **electrode** laminated with each other, the photoelec. conversion device is produced by conducting a step of forming a first **electrode**, a step of forming a first microcryst. semiconductor film without adding an n type or p type conductive type determining impurity element, a step of forming a substantially intrinsic amorphous semiconductor film, and a step of forming a second microcryst. semiconductor film without adding an n type or p type conductive type determining impurity element, by a plasma CVD method, and after the step of for forming the second **electrode**, conducting a step of injecting a p type conductive type determining impurity element from the surface of the second **electrode** to the second microcryst. semiconductor film, followed by heating.

IT **71818-44-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(process for producing photoelec. conversion device)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3

Sn	7440-31-5

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Hudgens	1988			US 4737379	HCAPLUS
Ishihara	1985			US 4492605	HCAPLUS
Izu	1983			US 4410558	HCAPLUS
Izu	1985			US 4519339	HCAPLUS
Masayuki, S	1999		1	Method and Apparatus	
Matsuyama	1998			US 5716480	HCAPLUS
Shinohara	1998			US 5736431	HCAPLUS
Takenouchi	1995			US 5427961	HCAPLUS
Yamazaki	1992			US 5164322	HCAPLUS
Yang	1986			US 4624862	HCAPLUS

L106 ANSWER 28 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:655021 HCAPLUS Full-text
DN 135:229341
TI Nonaqueous electrolyte secondary **batteries** with excellent cycle characteristics and high discharge capacity
IN Nakamoto, Takayuki; Nitta, Yoshiaki; Shimamura, Harushige; Negi, Noriyuki; Yamamoto, Hiroyoshi; Takeshita, Yukiteru; Yonemura, Koji
PA Matsushita Electric Industrial Co., Ltd., Japan; Sumitomo Metal Industries, Ltd.
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001243946	A	20010907	JP 2000-53317	20000229 <--
	JP 3882447	B2	20070214		
PRAI	JP 2000-53317		20000229 <--		

AB The **anodes** of the **batteries** include composite **particles** consisting of (A) a core **particle** having solid phase A which contains Si, Sn, and/or Zn and (B) a (partial) coating having solid phase B which is a solid solution or intermetallic compound of Si, Sn, and/or Zn with ≥1 of Group 2, 12, 13, 14 elements and transition metals (excluding A-forming elements and C), and the composite **particles** also contain ceramics. The ceramics may be selected from SiC, Si3N4, Al2O3, TiC, TiB2, Y2O3, ZrB2, HfB2, ZrO2, ZnO, WC, and/or W2C. The **batteries** are suitable for use in mobile phones, personal digital assistances, etc.
IT **71818-44-5**
RL: DEV (Device component use); USES (Uses)
(composite **particle** surface; solid solution or intermetallic compound composite **particles** containing ceramics as nonaq. electrolyte secondary **battery anodes**)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 29 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:261437 HCAPLUS Full-text
DN 134:283272
TI Secondary nonaqueous electrolyte **battery** using coated **alloy** composite **particles** in **anode**
IN Nitta, Yoshiaki; Yoshizawa, Hiroshi; Shimamura, Harunari
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001102052	A	20010413	JP 1999-281309	19991001 <--
PRAI JP 1999-281309		19991001 <--		

AB The **battery** has the **anode** using the composite **particles** consisting of solid phase A as cores and solid phase B as coatings on all or partial surface of the cores, wherein the **particles** are coated with low-m.p. **alloys** containing Ga and In, Sn, and/or Zn. The solid phase A contains Si, Sn, and/or Zn. The solid phase B contains solid solns. or intermetallic compds. of the phase A elements with Group 2, transition, 12, 13, and 14 (excluding C) elements. The low-m.p. **alloy** coatings prevent formation of high-resistivity coatings on the composite **particles** and decrease of conductive network, so that the **battery** has high capacity, good cycle performance, and high-rate discharge performance.
IT **112336-35-3**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**anode particles**; coated **alloy** composite **particles** in **anode** for high capacity, cycle, and discharge performance of nonaq. **battery**)
RN 112336-35-3 HCAPLUS
CN Tin alloy, base, Sn 81,Si 19 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	81	7440-31-5
Si	19	7440-21-3

IT **51844-78-1**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(phase component in **particles**; coated **alloy** composite **particles** in **anode** for high capacity, cycle, and discharge performance of nonaq. **battery**)
RN 51844-78-1 HCAPLUS
CN Tin alloy, base, Sn,Si (9CI) (CA INDEX NAME)

Component	Component Registry Number
Sn	7440-31-5
Si	7440-21-3

L106 ANSWER 30 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:178408 HCAPLUS Full-text
DN 134:230605
TI Use of silicon germanium and other **alloys** as the replacement gate for the fabrication of MOSFET

IN Ma, Yanjun; Tweet, Douglas J.; Evans, David R.; Ono, Yoshi
PA Sharp Laboratories of America, Inc., USA
SO U.S., 13 pp., Cont.-in-part of U.S. Ser. No. 28,157.
CODEN: USXXAM
DT **Patent**
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6200866	B1	20010313	US 1999-410346	19990930 <--
	US 6133106	A	20001017	US 1998-28157	19980223 <--
	JP 2001102583	A	20010413	JP 2000-261913	20000830 <--
	JP 3859439	B2	20061220		
	TW 501205	B	20020901	TW 2000-89120365	20000930 <--
PRAI	US 1998-28157	A2	19980223 <--		
	US 1999-410346	A	19990930 <--		

AB A method of fabricating a MOSFET is provided, including; depositing an oxide layer on a Si substrate for device isolation; forming a Si based **alloy** island above a gate region in the substrate, in which the Si based **alloy** comprises a Si-Ge **alloy** or a Si-Sn **alloy** or another **alloy** of Group IV-B elements; building a sidewall about the Si based **alloy** island; forming a source region and a drain region in the substrate; removing the Si based **alloy** island, thereby leaving a void over the gate region; filing the void and the areas over the source region and the drain region; and planarizing the upper surface of the structure by chemical mech. polishing. Alternative embodiments providing conventional and raised source/drain structures are disclosed.
IT **329192-77-0**, Silicon 0-95, tin 5-100 (atomic)
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(use of silicon germanium and other **alloys** as replacement gate for fabrication of MOSFET)
RN 329192-77-0 HCAPLUS
CN Tin alloy, base, Sn 18-100,Si 0-82 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	18 - 100	7440-31-5
Si	0 - 82	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1990	57	2202	Appl Phys Lett	
Anon	1992	139	2943	J Electrochem Soc	
Chatterjee			29.2.2	presented at Int'l E	
Doyle	1999			US 5858843	HCAPLUS
Ismail	1999			US 5955759	HCAPLUS
King			10.4.1	presented by Int'l E	
Lee	1999			US 5856225	HCAPLUS
Lee	1999	20	232	IEEE Electron Device	HCAPLUS
Yagishita			29.3.1	presented at Int'l E	

L106 ANSWER 31 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:757024 HCAPLUS Full-text
DN 133:337711
TI Nonaqueous electrolyte secondary cell
IN Shimamura, Harunari; Nitta, Yoshiaki
PA Matsushita Electric Industrial Co., Ltd., Japan

SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT **Patent**
LA Japanese
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000063986	A1	20001026	WO 2000-JP2502	20000418 <--
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2001006677	A	20010112	JP 2000-114799	20000417 <--
	JP 2001006667	A	20010112	JP 2000-114800	20000417 <--
	EP 1109239	A1	20010620	EP 2000-917330	20000418 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 6653019	B1	20031125	US 2001-719532	20010228 <--
PRAI	JP 1999-112073	A	19990420 <--		
	JP 1999-112074	A	19990420 <--		
	US 1998-90484	A2	19980603 <--		
	WO 2000-JP2502	W	20000418 <--		

AB A nonaq. electrolyte secondary cell comprises a neg. **electrode** which comprises, as its main material, composite **particles** having nuclear **particles** comprising at least one constituent element selected from tin, silicon and zinc and, covering at least a part of the circumference thereof, a solid solution or an intermetallic compound of the constituent element with at least one element selected from the group consisting of 2 Group elements exclusive of the constituent elements of nuclear **particles**, transition elements, Group 12 elements, Group 13 elements and Group14 elements exclusive of carbon of the Periodic Table, and in that the lithium occluded in the composite **particles** has a NMR signal in the range of -10 to 40 ppm and also at least one other signal in the range of -10 to 4 ppm. The nonaq. electrolyte secondary cell has higher energy d. and improved in life characteristics in charge-discharge cycle, as compared to a conventional cell using a carbon material for a neg. **electrode**.

IT **51844-78-1**
RL: DEV (Device component use); USES (Uses)
(neg. **electrode** in nonaq. electrolyte secondary cell containing)
RN 51844-78-1 HCAPLUS
CN Tin alloy, base, Sn,Si (9CI) (CA INDEX NAME)

Component	Component Registry Number
Sn	7440-31-5
Si	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Hitachi Ltd				US 6030726 A	HCAPLUS
Hitachi Ltd				KR 98086348 A	
Hitachi Ltd	1998			JP 10208741 A	HCAPLUS
Hitachi Ltd	1998			JP 10321225 A	HCAPLUS
Kao Corporation	1999			JP 11297311 A	HCAPLUS
Matsushita Electric Ind				JP 200030703 A	
Matsushita Electric Ind	1998			EP 0883199 A	HCAPLUS
Tokuyama Corp	1998			JP 10316426 A	HCAPLUS

L106 ANSWER 32 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:741125 HCAPLUS Full-text
DN 133:284183
TI Material for nonaqueous electrolyte **battery anode** composed of mixture of non-carbon and carbon materials
IN Yamada, Shinichiro; Endo, Takuya; Imoto, Hiroshi; Li, Guohua; Tanizaki, Hiroaki
PA Sony Corp., Japan
SO Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1045465	A2	20001018	EP 2000-108189	20000413 <--
	EP 1045465	A3	20040721		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000357514	A	20001226	JP 1999-365065	19991222 <--
	JP 2000357515	A	20001226	JP 1999-365066	19991222 <--
	CA 2305837	A1	20001014	CA 2000-2305837	20000411 <--
	US 6300013	B1	20011009	US 2000-549199	20000413 <--
	CN 1272698	A	20001108	CN 2000-117946	20000414 <--
	TW 451519	B	20010821	TW 2000-89107021	20000414 <--
PRAI	JP 1999-107158	A	19990414 <--		
	JP 1999-365065	A	19991222 <--		
	JP 1999-365066	A	19991222 <--		

AB A material for an **anode** (capable of preventing change in the volume of an active material occurring when lithium is doped/dedoped to improve resistance against cycle operations) contains a mixture of a non-carbon material and a carbon material, wherein when an assumption is made that the average **particle** size of the non-carbon material is RM and the average **particle** size of the carbon material is RC, the ratio RM/RC is not higher than one, and when an assumption is made that the weight of the non-carbon material is WM and the weight of the carbon is WC, the ratio WM/WC is not higher than one or a mixture of a silicon compound and a carbon material, wherein when an assumption is made that the average **particle** size of the silicon compound is RSi and the average **particle** size of the carbon material is RC, the ratio RSi/RC is not higher than one.
IT **103289-29-8**, Tin silicide
RL: DEV (Device component use); USES (Uses)
(material for nonaq. electrolyte **battery anode** composed of mixture of non-carbon and carbon materials)
RN 103289-29-8 HCAPLUS
CN Tin silicide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
Sn	x	7440-31-5
Si	x	7440-21-3

L106 ANSWER 33 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:725898 HCAPLUS Full-text
DN 133:298813
TI Nonaqueous electrolyte secondary cell and its negative **electrode**
IN Kasamatsu, Shinji; Shimamura, Harunari; Nitta, Yoshiaki
PA Matsushita Electric Industrial Co., Ltd., Japan

SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000060681	A1	20001012	WO 2000-JP1924	20000329 <--
W: US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000285919	A	20001013	JP 1999-92575	19990331 <--
EP 1100134	A1	20010516	EP 2000-912892	20000329 <--
EP 1100134	B1	20051116		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6548208	B1	20030415	US 2001-701277	20010122 <--
PRAI JP 1999-92575	A	19990331 <--		
WO 2000-JP1924	W	20000329 <--		

AB A neg. plate for a nonaq. electrolyte secondary cell has a high capacity and a discharge capacity hardly decreasing because of the charging/discharging cycle, and both properties are achieved by improving the elec. conductivity at the surface of **particles** of the material of the neg. plate. The material of the neg. plate contains **particles** and the nuclei of the **particles** are solid phase A coated wholly or partially with solid phase B. The solid phase A contains silicon as a constituent element, and the solid phase B is either a solid solution containing silicon and at least one element selected from Group 2, transition elements, Group 12, Group 13, and Group 14 of the periodic table except carbon and silicon or an intermetallic compound A nonaq. electrolyte secondary cell including such a material is also disclosed.

IT **112336-35-3**
RL: DEV (Device component use); USES (Uses)
(in neg. **electrode** for nonaq. electrolyte secondary cell)
RN 112336-35-3 HCAPLUS
CN Tin alloy, base, Sn 81,Si 19 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	81	7440-31-5
Si	19	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Hitachi Maxell Ltd	1998			JP 10125309 A	HCAPLUS
Matsushita Electric Ind	1998			JP 10308208 A	HCAPLUS
Matsushita Electric Ind	2000			JP 200030703 A	
Sony Corp				JP 1083817 A	
Sony Corp				US 6042969 A	HCAPLUS
Sony Corp	1998			EP 820110 A2	HCAPLUS
Sumitomo Metal Industri	1998			JP 10302770 A	HCAPLUS

L106 ANSWER 34 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:210572 HCAPLUS Full-text
DN 132:210263
TI **Anode** materials for secondary lithium **batteries**, **anodes** from the materials, the **batteries**, and manufacture of the **anodes** and the **batteries**

IN **Kawakami, Soichiro**; Asao, Masaya
PA Canon Kabushiki Kaisha, Japan
SO PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DT **Patent**
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000017948	A1	20000330	WO 1999-JP5092	19990917 <--
	W: CA, CN, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2000311681	A	20001107	JP 1999-261516	19990916 <--
	JP 3620703	B2	20050216		
	CA 2310475	A1	20000330	CA 1999-2310475	19990917 <--
	EP 1039568	A1	20000927	EP 1999-943402	19990917 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1492525	A	20040428	CN 2001-2001140730	19990917 <--
	TW 468287	B	20011211	TW 1999-88116171	19990918 <--
	US 6949312	B1	20050927	US 2000-554794	20000814 <--
	HK 1061924	A1	20060915	HK 2004-104859	20040706 <--
	US 2005175901	A1	20050811	US 2005-104440	20050413 <--
	US 7183018	B2	20070227		
	US 2007031730	A1	20070208	US 2006-544713	20061010 <--
PRAI	JP 1998-282087	A	19980918 <--		
	JP 1999-50471	A	19990226 <--		
	JP 1999-261516	A	19990916 <--		
	WO 1999-JP5092	W	19990917 <--		
	US 2000-554794	A3	20000814 <--		
	US 2005-104440	A3	20050413		

AB The **anode** materials contain **particles** of amorphous non-stoichiometric **alloy** Sn-A-X, where A = transition metal(s), X is an optional component and is selected from O, F, N, Mg, Ba, Sr, Ca, La, Ce, Si, Ge, C, P, B, Bi, Sb, Al, In, and Zn. The **anode** have the above **anode** materials applied on a collector which does not form **alloys** with Li and are prepared by applying the material on the collector.

IT **260805-70-7P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(compns. and manufacture of **anode** materials for secondary lithium **batteries**)

RN 260805-70-7 HCAPLUS
CN Tin alloy, base, Sn 71,Co 18,Si 11 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	71	7440-31-5
Co	18	7440-48-4
Si	11	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Fuji Photo Film CoLtd				JP 07249409	HCAPLUS
Fuji Photo Film CoLtd				EP 651450 A1	HCAPLUS
Fuji Photo Film CoLtd	1998			US 5780181 A	HCAPLUS

Fuji Photo Film Co Ltd	1996		JP 08315858 A	HCAPLUS
Seimi Chemical Co Ltd	1999		JP 1145712 A	

L106 ANSWER 35 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:191355 HCAPLUS Full-text
DN 132:224250
TI Touch panel for display screens
IN Sato, Hirotoshi; Noda, Kazuhiro; Furukawa, Shuji; Tanimura, Kohtaro
PA Gunze Ltd., Japan
SO PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000016251	A1	20000323	WO 1999-JP4854	19990908 <--
	W: CN, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2000085051	A	20000328	JP 1998-258569	19980911 <--
	JP 3366864	B2	20030114		
	EP 1031111	A1	20000830	EP 1999-943201	19990908 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1508749	A	20040630	CN 2004-10001868	19990908 <--
	TW 448399	B	20010801	TW 1999-88115580	19990909 <--
	JP 2003197035	A	20030711	JP 2002-277911	20020924 <--
	JP 3859569	B2	20061220		
PRAI	JP 1998-256463	A	19980910 <--		
	JP 1998-258569	A	19980911 <--		
	JP 1998-301442	A	19981022 <--		
	CN 1999-801567	A	19990908 <--		
	WO 1999-JP4854	W	19990908 <--		

AB A touch panel is described for input operations on a liquid crystal display, which has an excellent contact level between an undercoat layer and a substrate on which the undercoat layer is formed. The touch panel is lightwt. with wide operating temperature range and impact resistance. A metal layer is provided between the conductive layer and an undercoat layer, the metal layer being formed from a single metal (e.g., Si, Ti, Sn, Zn) or an **alloy**. An amorphous polyolefin base resin sheet is used for forming conductive-layer forming members of the touch and display substrates, using a material for forming a supporting member so that a difference between linear expansion coeffs. of the supporting member and each of the conductive-layer forming members is kept within 1x10-5/°C.
IT **71818-44-5**, Silicon **alloy**, Si,Sn
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(touch panel for display screens)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

RETABLE

Referenced Author	Year	VOL	PG	Referenced Work	Referenced

(RAU)	(RPY)	(RVL)	(RPG)	(RWK)	File
Gunze Ltd	1997			JP 09115385 A	
Gunze Ltd	1997			JP 09237159 A	HCAPLUS
Kenichirou, I	1997			US 5668576 A	
Matsushita Electric Ind	1998			JP 10171599 A	HCAPLUS
Seiko Epson Corp	1995			JP 07013678 A	
Tatsuo, O	1986			US 4585689 A	HCAPLUS

L106 ANSWER 36 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:54118 HCAPLUS Full-text
DN 132:66713
TI **Electrode** material for secondary lithium **batteries**
IN Turner, Robert L.
PA Minnesota Mining and Manufacturing Company, USA
SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000003444	A1	20000120	WO 1999-US1254	19990121 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6255017	B1	20010703	US 1998-113385	19980710 <--
	CA 2337210	A1	20000120	CA 1999-2337210	19990121 <--
	AU 9923315	A	20000201	AU 1999-23315	19990121 <--
	EP 1099265	A1	20010516	EP 1999-903250	19990121 <--
	EP 1099265	B1	20040512		
	R: DE, FR, GB, IT				
	JP 2002520783	T	20020709	JP 2000-559603	19990121 <--
	TW 469661	B	20011221	TW 1999-88111524	19990707 <--
	HK 1037061	A1	20050610	HK 2001-107575	20011030 <--
PRAI	US 1998-113385	A	19980710 <--		
	WO 1999-US1254	W	19990121 <--		

AB An **electrode** composition that includes an **electrode** material consisting essentially of a plurality of electrochem. active metal elements in which the **electrode** material has a microstructure comprising these elements in the form of a mixture that is essentially free of domains measuring greater than about 1000 Å. The electrochem. active metal elements are selected from the group consisting of Al, Si, Sn, Sb, Pb, Ge, Mg, Zn, Cd, Bi, and In.
IT **71818-44-5 116520-50-4 116520-51-5**
170704-95-7 253344-64-8
RL: DEV (Device component use); USES (Uses)
(**electrode** material for secondary lithium **batteries**
)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3

Sn 7440-31-5

RN 116520-50-4 HCAPLUS
CN Tin alloy, base, Sn 72,Si 28 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	72	7440-31-5
Si	28	7440-21-3

RN 116520-51-5 HCAPLUS
CN Tin alloy, base, Sn 83,Si 17 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	83	7440-31-5
Si	17	7440-21-3

RN 170704-95-7 HCAPLUS
CN Tin alloy, base, Sn 87,Si 13 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	87	7440-31-5
Si	13	7440-21-3

RN 253344-64-8 HCAPLUS
CN Tin alloy, base, Sn 90,Si 10 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	90	7440-31-5
Si	10	7440-21-3

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Besenhard, J	1985			US 4547442 A	HCAPLUS
Canon Kk	1996			EP 0690517 A	HCAPLUS
Canon Kk	1998			EP 0855752 A	HCAPLUS
Hirofumi, I	1996			US 5494762 A	HCAPLUS
Macrae, M	1990			US 4915985 A	HCAPLUS
Renata Ag	1995			EP 0664570 A	HCAPLUS
Seiko Instr Inc	1992			JP 04206264 A	HCAPLUS
Toshiba Corp	1998			JP 10003920 A	HCAPLUS
Zlatilova, P	1988	24	71	JOURNAL OF POWER SOU	HCAPLUS

L106 ANSWER 37 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:231512 HCAPLUS Full-text
DN 128:273848
TI Positron annihilation studies in SixSn1-x and GexSn1-x **alloys**
AU Benkabou, F.; Bouhafs, B.; Zaoui, A.; Certier, M.; Aourag, H.
CS Computational Materials Science Lab., Phys. Dep., Univ. Sidi-Bel-Abbes, Sidi-Bel-Abbes, 22000, Algeria
SO Physica Status Solidi B: Basic Research (**1998**), 206(2), 635-644

CODEN: PSSBBD; ISSN: 0370-1972
PB Wiley-VCH Verlag Berlin GmbH
DT Journal
LA English
AB The angular correlation of positron annihilation radiation (ACPAR) along different crystallog. directions in SixSn1-x and GexSn1-x is calculated The authors observe that the electron-positron momentum d. increases rapidly with increasing Si and Ge content. The computational technique used here is based on the independent-**particle** model (IPM) coupled with the use of the electron pseudo-wave and the virtual crystal approximation (VCA) which incorporates compositional disorder as an effective potential. The authors also present the variation of the positron lifetime in these **alloys**.
IT **71818-44-5**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(calcn. of electron-positron momentum distribution in Si-Sn and Ge-Sn semiconductor **alloys** in correlation with positron annihilation radiation)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 38 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:128228 HCAPLUS Full-text
DN 128:186572
TI Synthesis of non-thermal-equilibrium composition semiconductor by ion-beam-induced epitaxial crystallization
AU Kobayashi, Naoto
CS Electrotechnical Lab., Umezono, Tsukuba, Ibaraki, 305, Japan
SO Hyomen Kagaku (**1997**), 18(12), 803-809
CODEN: HYKAET; ISSN: 0388-5321
PB Nippon Hyomen Kagakkai
DT Journal; General Review
LA Japanese
AB Ion-beam-induced epitaxial crystallization (IBIEC) is an appropriate method for the crystalline growth of semiconducting materials with nonthermal-equilibrium composition In this review, with .apprx.28 refs., I focus on the synthesis of the Si-based Group IV semiconductors, such as Si1-xGex, Si1-x-yGexCy, Si1-yCy and Si1-zSnz formed by ion implantation. As far as Si1-xyGexCy grown by IBIEC is concerned, Si atoms are substitutionally replaced with C atoms, and hence the lattice matching between Si1-x-yGexCy and Si is better for IBIEC than for solid phase epitaxial growth (SPEG), because of the formation of SiC in the latter. However, small vacancy clusters are produced in the samples grown by IBIEC. Efforts should be made to annihilate these defects. I also demonstrate the feasibility of synthesizing Si1-yCy and Si1-zSnz with nonthermal-equilibrium composition by IBIEC.
IT **71818-44-5**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(synthesis of non-thermal-equilibrium composition semiconductor by ion-beam-induced epitaxial crystallization)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component Component

	Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 39 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1997:754524 HCAPLUS Full-text
DN 128:64975
TI Aluminum **alloy** clad materials showing excellent solderability and and high corrosion resistance
IN Hisatomi, Yuji; Shoji, Yoshifusa; Ikeda, Hiroshi
PA Sumitomo Light Metal Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09302433	A	19971125	JP 1996-140655	19960510 <--
	JP 3222768	B2	20011029		
PRAI	JP 1996-140655		19960510 <--		

AB In the title materials comprising Al **alloy** clad cores, Al-Si solder claddings on one side of the cores, and sacrificial **anode** claddings on the other side, and used by using fluoride fluxes; Mg content in the Al-Si solders is 0-0.02 weight%, and average Mg concentration within 150 (sic) depth from the surfaces is 0-10 atomic%. Preferably, the cores are Al **alloys** containing Mn 0.4-2.0, Cu 0.25-1.0, Mg 0.2-0.8, Si 0.1-1.0, and Fe 0.06-0.8 weight%, the sacrificial **anodes** are Al **alloys** containing Zn 0.5-3.0, Mg 0.2-0.8, and Si 0.06-0.3 weight%, and the solders are Al **alloys** containing 5.0-15 weight% Si. The claimed materials are manufactured by cold rolling and annealing at 250-350°. The materials are suitable for tubes and sheets for heat exchangers.
IT **12635-40-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(solder claddings; composite Al **alloys** for tubes and plates for heat exchangers)
RN 12635-40-4 HCAPLUS
CN Aluminum alloy, base, Al 93,Si 7 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	93	7429-90-5
Si	7	7440-21-3

L106 ANSWER 40 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1994:643442 HCAPLUS Full-text
DN 121:243442
TI Electrically conductive glass and their preparation
IN Suzuki, Susumu; Seki, Koichi; Ando, Hidekazu
PA Asahi Glass Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 06191894 A 19940712 JP 1992-357618 19921224 <--
PRAI JP 1992-357618 19921224 <--
AB The glass comprises an alkali-containing glass successively coated with an oxide film (A) mainly containing Sn and Si (to inhibit alkali diffusion from the glass) as an alkali barrier, and a conductive film (B). The manufacture involves successively forming of A and B on an alkali-containing glass. Preferably, the alkali barrier film has [Sn/(Sn + Si)] ratio 5-95 atomic%, and B is continuously formed by direct-current sputtering after forming A. The glass is heat- and deterioration-resistant.
IT **158616-16-1**, Tin silicide (SnSi2)
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(sputtering targets; sputtering of alkali barrier films and conductive films on alkali-containing glass)
RN 158616-16-1 HCAPLUS
CN Tin silicide (SnSi2) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
Sn	1	7440-31-5
Si	2	7440-21-3

L106 ANSWER 41 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1994:312556 HCAPLUS Full-text
DN 120:312556
TI Properties of evaporated amorphous silicon-tin and hydrogenated silicon-tin **alloys**
AU Vergnat, M.; Gerl, M.
CS Lab. Metall. Phys. Sci. Mater., Univ. Nancy 1, Fr.
SO Journal of Materials Science & Technology (Shenyang, China) (**1993**), 9(2), 79-88
CODEN: JSCTEQ; ISSN: 1005-0302
DT Journal
LA English
AB Amorphous Si1-xSnx **alloys** have been prepared by co-evaporation onto substrates maintained at liquid-nitrogen temperature Their atomic structure is investigated using d. measurements, scanning high-energy electron diffraction and Moessbauer spectroscopy. Optical and elec. properties are reported. Then, a method to hydrogenate the films during the evaporation process is described and applied to the preparation of amorphous semiconductors from pure silicon to pure tin. Finally, multilayers of type Si/Si:H/ ... or Si:H/Si:D/ ... were studied. The modulation of hydrogen is shown by low-angle neutron scattering, and measurements of hydrogen diffusivity are presented.
IT **62795-20-4 94900-58-0**, Silicon 43, tin 57 (atomic)
116520-48-0, Silicon 90, tin 10 (atomic) **116520-50-4**, Silicon 62, tin 38 (atomic) **122168-05-2**, Silicon 78, tin 22 (atomic) **155046-43-8**, Silicon 87, tin 13 (atomic) **155046-44-9**, Silicon 68, tin 32 (atomic) **155046-45-0**, Silicon 53, tin 47 (atomic)
RL: PRP (Properties)
(structural and optical and elec. properties of evaporated hydrogenated amorphous films of)
RN 62795-20-4 HCAPLUS
CN Silicon alloy, base, Si 0-100,Sn 0-100 (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Si	0 - 100	7440-21-3
Sn	0 - 100	7440-31-5

RN 94900-58-0 HCAPLUS
CN Tin alloy, base, Sn 85,Si 15 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	85	7440-31-5
Si	15	7440-21-3

RN 116520-48-0 HCAPLUS
CN Silicon alloy, base, Si 68,Sn 32 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	68	7440-21-3
Sn	32	7440-31-5

RN 116520-50-4 HCAPLUS
CN Tin alloy, base, Sn 72,Si 28 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	72	7440-31-5
Si	28	7440-21-3

RN 122168-05-2 HCAPLUS
CN Tin alloy, base, Sn 54,Si 46 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	54	7440-31-5
Si	46	7440-21-3

RN 155046-43-8 HCAPLUS
CN Silicon alloy, base, Si 61,Sn 39 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	61	7440-21-3
Sn	39	7440-31-5

RN 155046-44-9 HCAPLUS
CN Tin alloy, base, Sn 67,Si 33 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	67	7440-31-5
Si	33	7440-21-3

RN 155046-45-0 HCAPLUS
CN Tin alloy, base, Sn 79,Si 21 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	79	7440-31-5
Si	21	7440-21-3

L106 ANSWER 42 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1993:137984 HCAPLUS Full-text
DN 118:137984
TI Photoannealing of nonsingle-crystal semiconductor films
IN Yamazaki, Shunpei; Suzuki, Kunio; Nagayama, Susumu; Inujima, Takashi; Abe, Masayoshi; Fukada, Takeshi; Kinka, Mikio; Kobayashi, Ippei; Shibata, Katsuhiko; et al.
PA Semiconductor Energy Laboratory Co., Ltd. (SEL), Japan
SO U.S., 12 pp. Cont.-in-part of U.S. 4,986,213.
CODEN: USXXAM
DT **Patent**
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5171710	A	19921215	US 1990-520998	19900509 <--
	JP 62054423	A	19870310	JP 1985-186372	19850823 <--
	US 4986213	A	19910122	US 1988-251940	19880928 <--
	US 4888305	A	19891219	US 1989-320788	19890309 <--
	JP 2000311857	A	20001107	JP 2000-87442	19910318 <--
	JP 2002110696	A	20020412	JP 2001-258626	19910318 <--
	JP 2002110697	A	20020412	JP 2001-258627	19910318 <--
	JP 2002118119	A	20020419	JP 2001-258628	19910318 <--
	US 5296405	A	19940322	US 1992-933718	19920824 <--
	US 5962869	A	19991005	US 1994-183800	19940121 <--
	US 5753542	A	19980519	US 1995-396780	19950301 <--
	US 2002048891	A1	20020425	US 1998-38926	19980309 <--
	US 6423586	B2	20020723		
	JP 2004343144	A	20041202	JP 2004-236441	20040816 <--
	US 2005181583	A1	20050818	US 2005-105404	20050414 <--
PRAI	JP 1985-170956	A	19850802 <--		
	JP 1985-186372	A	19850823 <--		
	US 1986-891791	B1	19860801 <--		
	US 1988-251940	A2	19880928 <--		
	US 1987-74344	A1	19870714 <--		
	US 1990-520998	A1	19900509 <--		
	JP 1991-80799	A	19910318 <--		
	JP 1998-80263	A3	19910318 <--		
	JP 2000-87442	A3	19910318 <--		
	JP 2001-230625	A3	19910318 <--		
	US 1992-852517	B1	19920317 <--		
	US 1992-933718	A2	19920824 <--		
	US 1994-183800	A3	19940121 <--		
	US 1995-396780	A3	19950301 <--		
	US 1998-38926	A3	19980309 <--		
	US 2001-978696	A3	20011018 <--		

AB A nonsingle-crystal semiconductor film containing Si and ≥5 + 1018 O atoms/cm3 is formed on a substrate, irradiated with light, and a neutralizing agent F, Cl, or H) is introduced into the irradiated film. The film obtained does not degrade even under repetition of the Staebler-Wronski effect.
IT **62795-20-4**
RL: USES (Uses)
(photoannealing of nonsingle-crystal films of, containing oxygen)

RN 62795-20-4 HCAPLUS
CN Silicon alloy, base, Si 0-100,Sn 0-100 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	0 - 100	7440-21-3
Sn	0 - 100	7440-31-5

L106 ANSWER 43 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:417886 HCAPLUS Full-text
DN 117:17886
TI Apparatus and methods for forming fine structures
IN Yoneda, Masahiro
PA Mitsubishi Electric Corp., Japan
SO Ger. Offen., 9 pp.
CODEN: GWXXBX
DT **Patent**
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4128780	A1	19920305	DE 1991-4128780	19910829 <--
	JP 04111312	A	19920413	JP 1990-228017	19900831 <--
PRAI	JP 1990-228017	A	19900831 <--		

AB The title apparatus comprises plasma deposition apparatus which includes a substrate supporting **electrode** coupled with means for producing elastic waves on the substrate. The title methods entail carrying out the deposition while producing elastic waves on the substrate so that selective deposition is induced. The films may comprise metals, silicides, carbides, nitrides, polymers, ferroelecs., oxide superconductors, or ferromagnetic materials; the elastic wave may be an ultrasonic wave.
IT **103289-29-8**, Tin silicide
RL: USES (Uses)
(deposition of films of, fine pattern formation during)
RN 103289-29-8 HCAPLUS
CN Tin silicide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
Sn	x	7440-31-5
Si	x	7440-21-3

L106 ANSWER 44 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:46704 HCAPLUS Full-text
DN 116:46704
TI Structural studies of amorphous semiconductor-metal **alloys**
AU Edwards, A. M.; Fairbanks, M. C.; Newport, R. J.; Gurman, S. J.
CS Phys. Lab., Univ. Kent, Canterbury, CT2 7NR, UK
SO Vacuum (**1990**), 41(4-6), 1335-8
CODEN: VACUAV; ISSN: 0042-207X
DT Journal
LA English
AB A semiconductor to metal transition in amorphous semiconductor-metal **alloys** may be induced by increasing the metal concentration above a critical limit. Without a knowledge of the atomic scale structure of the **alloy**, it is difficult to ascribe a mechanism to this process. Three **alloy** systems (a-Si1-

xNix-H; a-Ge1-xAux and a-Si1-x-H) have been prepared as thin films by radiofrequency reactive cosputtering over pertinent composition ranges. The microstructure of these **alloys** was investigated by using EXAFS. Both a-Si1-xNix-H and a-Ge1-xAux consist of 2 sep. phases, regions of an amorphous Ni-Si **alloy** and a crystalline Ge-Au **alloy** being embedded in an amorphous matrix provided by a-Si and a-Ge, resp. In contrast, however, Sn atoms are substituted randomly into the a-Si tetrahedral random network.

IT **133104-79-7**
RL: PRP (Properties)
(structure of amorphous hydrogen-doped)
RN 133104-79-7 HCAPLUS
CN Silicon alloy, base, Si 52-100,Sn 0-48 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	52 - 100	7440-21-3
Sn	0 - 48	7440-31-5

L106 ANSWER 45 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1991:646110 HCAPLUS Full-text
DN 115:246110
TI Manufacture of photovoltaic device containing transparent **electrode**
IN Iwamoto, Masayuki; Yamaoki, Toshihiko; Minami, Koji
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03185877	A	19910813	JP 1989-325644	19891215 <--
	JP 2771651	B2	19980702		
PRAI	JP 1989-325644		19891215 <--		

AB The device is manufactured by forming a semiconductor thin film layer at the side of an incidence surface on a semiconductor substrate by liquid-phase growth using a metal solvent of Sn, In, Zn, etc., forming a Sn, In, Zn, etc.-containing metal or (**alloy**) thin film on the semiconductor thin film layer, and oxidizing the metal (**alloy**) thin film to give a transparent elec. conducting metal oxide thin film.

IT **51844-78-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, for photovoltaic device transparent **electrode**)
RN 51844-78-1 HCAPLUS
CN Tin alloy, base, Sn,Si (9CI) (CA INDEX NAME)

Component	Component Registry Number
Sn	7440-31-5
Si	7440-21-3

L106 ANSWER 46 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1989:488283 HCAPLUS Full-text
DN 111:88283
TI Ion beam mixing of silicon-tin multilayers

AU Massouras, G.; Roger, J. A.; Perez, A.; Fuchs, G.; Romana, L.
CS Dep. Phys. Mater., Univ. Claude Bernard Lyon 1, Villeurbanne, 69622, Fr.
SO Hyperfine Interactions (1989), Volume Date 1988, 46(1-4), 509-15
CODEN: HYINDN; ISSN: 0304-3843
DT Journal
LA English
AB Si and Sn multilayers of total thickness 200 nm were deposited at room temperature on Be and glass-plate substrates under high vacuum (<5 + 10-7 mbar). The average atomic Sn fraction of the whole layer varied from 0.12 to 0.60. The samples were irradiated at room temperature with Xe+ ions of 900 keV energy with fluences of 1015 to 2 + 1016 ions/cm2. Rutherford backscattering spectrometry was used to check overall composition before irradiation After irradiation, a substitutional Sn site is evidenced by means of 119Sn conversion electron Moessbauer spectroscopy, the relative population of which depends on composition and irradiation fluence. TEM was used to monitor the evolution of the samples with irradiation fluence. Elec. measurements show semiconductor behavior of the mixed multilayers with elec. resistivity ranging from 102 to 10-3 Ω.cm as a function of composition
IT **112315-74-9 112336-35-3 120518-21-0**
122168-03-0 122168-04-1 122168-05-2
122168-06-3
RL: PRP (Properties)
(conversion electron Moessbauer spectra of)
RN 112315-74-9 HCAPLUS
CN Tin alloy, base, Sn 74,Si 26 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	74	7440-31-5
Si	26	7440-21-3

RN 112336-35-3 HCAPLUS
CN Tin alloy, base, Sn 81,Si 19 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	81	7440-31-5
Si	19	7440-21-3

RN 120518-21-0 HCAPLUS
CN Tin alloy, base, Sn 86,Si 14 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	86	7440-31-5
Si	14	7440-21-3

RN 122168-03-0 HCAPLUS
CN Silicon alloy, base, Si 54,Sn 46 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	54	7440-21-3
Sn	46	7440-31-5

RN 122168-04-1 HCAPLUS

CN Silicon alloy, base, Si 63,Sn 37 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	63	7440-21-3
Sn	37	7440-31-5

RN 122168-05-2 HCAPLUS
CN Tin alloy, base, Sn 54,Si 46 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	54	7440-31-5
Si	46	7440-21-3

RN 122168-06-3 HCAPLUS
CN Tin alloy, base, Sn 64,Si 36 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	64	7440-31-5
Si	36	7440-21-3

IT **122168-02-9**
RL: PRP (Properties)
(elec. resistance of, from ion beam mixing)
RN 122168-02-9 HCAPLUS
CN Tin alloy, base, Sn 37-86,Si 14-63 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	37 - 86	7440-31-5
Si	14 - 63	7440-21-3

L106 ANSWER 47 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1988:159596 HCAPLUS Full-text
DN 108:159596
TI Preparation of hydrogenated amorphous silicon tin **alloys**
AU Vergnat, M.; Marchal, G.; Piecuch, M.
CS Lab. Phys. Solide, Univ. Nancy, Vandoeuvre-les-Nancy, 54506, Fr.
SO Revue de Physique Appliquee (**1987**), 22(12), 1803-8
CODEN: RPHAAN; ISSN: 0035-1687
DT Journal
LA English
AB A new method to obtain hydrogenated amorphous semiconductor **alloys** is described. The method is reactive co-evaporation Hydrogenated Si-Sn **alloys** are prepared under atomic H atmospheric The influence of various parameters of preparation (H pressure, W tube temperature, substrate temperature, annealing...) on elec. properties of samples is discussed.
IT **90175-80-7 106806-26-2 113819-90-2 113819-91-3**
RL: USES (Uses)
(deposition of amorphous hydrogenated)
RN 90175-80-7 HCAPLUS
CN Silicon alloy, base, Si 7.3-100,Sn 0-93 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	7.3 - 100	7440-21-3
Sn	0 - 93	7440-31-5

RN 106806-26-2 HCAPLUS
CN Tin alloy, base, Sn 68,Si 32 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	68	7440-31-5
Si	32	7440-21-3

RN 113819-90-2 HCAPLUS
CN Tin alloy, base, Sn 62,Si 38 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	62	7440-31-5
Si	38	7440-21-3

RN 113819-91-3 HCAPLUS
CN Tin alloy, base, Sn 78,Si 22 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	78	7440-31-5
Si	22	7440-21-3

L106 ANSWER 48 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1987:524723 HCAPLUS Full-text
DN 107:124723
TI Photoreceptors with interference-fringe elimination
IN Honda, Mitsuru; Murai, Keiichi; Ogawa, Kiyosuki; Koike, Atsushi
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 40 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62102247	A	19870512	JP 1985-241573	19851030 <--
	JP 06090534	B	19941114		
PRAI	JP 1985-241573		19851030 <--		

AB For a photoreceptor consisting of a 1st amorphous layer of Si and Ge and/or Sn, and a 2nd layer of amorphous Si, both containing O, C, and/or N, the substrate (e.g. metal) surface has a number of **spherical** minute depressions in which a number of micro-depressions are formed. The 2nd layer may uniformly contain O, N, and/or C. The 1st layer may consist of a multilayer (e.g., containing a charge inhibition layer and/or a barrier layer) and/or have a conductivity-controlling substance. The surface unevenness of the substrate may satisfy $0.035 \leq D/R \leq 0.5$, $D \leq 0.5$ mm, and $0.5 \leq r \leq 20$ μm, where D, R, and r are the width and curvature of the **spherical** depressions and the height

of the micro-unevenness, resp., and may be formed by free dropping of rigid **spheres**. Thus, a 1st amorphous hydrogenated-fluorinated Si-Ge layer (a layer containing C and B 3 μm thick and a layer containing C 22 μm thick) and a 2nd amorphous fluorinated-hydrogenated Si layer containing C (0.5 μm thick) were formed on an Al **alloy** cylinder having an uneven surface with D 450 μm, D/R 0.06, and rmax 5 μm at 250° by plasma chemical vapor deposition. Interference fringes were eliminated in photoimaging.

IT **71818-44-5**
RL: USES (Uses)
(amorphous photoreceptors from, for photoimaging)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 49 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1987:506467 HCAPLUS Full-text
DN 107:106467
TI Photoreceptors with interference fringe elimination
IN Honda, Mitsuru; Murai, Keiichi; Ogawa, Kiyosuke; Koike, Atsushi
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 39 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62100761	A	19870511	JP 1985-241890	19851029 <--
	JP 06090535	B	19941114		
PRAI	JP 1985-241890		19851029 <--		

AB A photoreceptor layer consisting of a 1st amorphous layer from Si, and Ge and/or Sn and a 2nd layer from amorphous Si containing C, N, and/or O is formed on a substrate having surface unevenness with **spherical** minute depressions in which a number of micro-depressions are formed. The 1st layer may contain conductivity controlling substance(s) and be a multilayer (e.g., containing charge inhibition or barrier layers). The depressions on the substrate may be given by $0.035 \leq D/R < 0.5$, $D < 0.5$ mm, and $0.5\ \mu m \leq \gamma \leq 20\ \mu m$, where D, R, and γ are width and curvature of the depressions and height of micro-unevenness in the **spherical** depressions, resp., and formed by free dropping of rigid **spheres**. A fluorinated-hydrogenated Si-Ge and C-containing Si layer were formed on an Al **alloy** cylinder having surface unevenness 450 μm in D, 0.06 in D/R, and 5 μm in γmaximum No interference fringes were observed in photoimaging.

IT **71818-44-5**
RL: USES (Uses)
(amorphous photoreceptor layers from, for interference fringe-free photoimaging)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number

Si 7440-21-3
Sn 7440-31-5

L106 ANSWER 50 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1987:187029 HCAPLUS Full-text
DN 106:187029
TI Recrystallization of semiconductors
IN Oka, Yoshio; Ozawa, Hidekatsu; Kusayanagi, Masao; Kamata, Mikio
PA Sony Corp., Japan
SO Jpn. Tokkyo Koho, 5 pp.
CODEN: JAXXAD
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61061250	B	19861224	JP 1977-137474	19771116 <--
JP 54070764	A	19790606		
PRAI JP 1977-137474	A	19771116 <--		

AB A method for recrystn. of a semiconductor material involves: (a) forming a thin metal film on part of a semiconductor substrate; (b) forming a single-crystal film, with a predetd. plane direction, and of the same material as that of the substrate, on the metal film; (c) heating the substrate to a temperature higher than the eutectic point of the metal and semiconductor so that the metal eutectoid flows to the other side of the substrate for selective recrystn. of the semiconductor material. The method can recrystallize part of the substrate to have any plane direction.
IT **71818-44-5**
RL: PRP (Properties)
(eutectic recrystn. of single-crystal silicon using)
RN 71818-44-5 HCAPLUS
CN Silicon alloy, nonbase, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 51 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1986:489628 HCAPLUS Full-text
DN 105:89628
TI Narrow band gap amorphous silicon semiconductors
IN Madan, Arun; Mahan, A. Harvin
PA USA
SO U. S. Pat. Appl., 9 pp. Avail. NTIS Order No. PAT-APPL-6-690 218.
CODEN: XAXXAV
DT **Patent**
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 690218	A0	19860117	US 1985-690218	19850110 <--
PRAI US 1985-690218		19850110 <--		

AB A narrow band gap amorphous Si semiconductor comprises an **alloy** of amorphous Si and a band gap narrowing element selected from the group consisting of Sn, Ge, and Pb, with an electron donor dopant selected from the group consisting of P, As, Sb, Bi and N. The process for producing the narrow band gap

amorphous Si semiconductor comprises the steps of forming an **alloy** comprising amorphous Si and ≥1 of the band gap narrowing elements in an amount sufficient to narrow the band gap of the Si semiconductor **alloy** below that of amorphous Si, and also utilizing sufficient amts. of the electron donor dopant to maintain the amorphous Si **alloy** as an n-type semiconductor.

IT **91017-73-1**
RL: USES (Uses)
(narrow band gap amorphous semiconductors)
RN 91017-73-1 HCAPLUS
CN Silicon alloy, base, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 52 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1985:588040 HCAPLUS Full-text
DN 103:188040
TI Photoelectric device
PA Fuji Xerox Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60066876	A	19850417	JP 1983-175671	19830922 <--
PRAI JP 1983-175671		19830922 <--		

AB A photoelec. device having increased spectral sensitivity in the long-wavelength region consists of an amorphous hydrogenated SixGe1-x or SixSn1-x (0 ≤ x < 1) photoconductor layer sandwiched between a transparent **electrode** and a metal **electrode**. The photoelec. device is especially useful for facsimile recording.

IT **62795-20-4**
RL: DEV (Device component use); USES (Uses)
(photoconductive hydrogenated amorphous layers of, for photoelec. devices)
RN 62795-20-4 HCAPLUS
CN Silicon alloy, base, Si 0-100,Sn 0-100 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	0 - 100	7440-21-3
Sn	0 - 100	7440-31-5

L106 ANSWER 53 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1985:533486 HCAPLUS Full-text
DN 103:133486
TI A thin ribbon wafer of semiconductor material
IN Tsuya, Noboru; Arai, Kenichi
PA Japan
SO U.S., 31 pp. Cont. of U.S. Ser. No. 375,314, abandoned.
CODEN: USXXAM
DT **Patent**

LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4525223	A	19850625	US 1984-597565	19840409 <--
	JP 58019633	B	19830419	JP 1978-114848	19780919 <--
	JP 55042248	A	19800325		
	JP 55052218	A	19800416	JP 1978-125485	19781012 <--
	US 4682206	A	19870721	US 1985-721675	19850410 <--
PRAI	JP 1978-114848	A	19780919 <--		
	JP 1978-125485	A	19781012 <--		
	US 1979-55031	A1	19790706 <--		
	US 1982-375314	A1	19820505 <--		
	US 1984-597565	A3	19840409 <--		

AB A novel thin ribbon wafer of semiconductor having a polycryst. structure composed of >50% of a grain having a grain size of >5 μm, a thickness of 5-200 μm, sufficient flexibility to be windable on a pipe having a diameter of 34 mm, malleability, and composed from p-type, i-type or n-type semiconducting material, and the composite clad of ≥2 elements thereof so as to form a p-n type junction is described. The composition of said semiconductor material consists of pure Si or Si with addnl. elements for improving the properties of a semiconductor; said addnl. element being at least one element in a proportion of <10 atomic% as compared to said Si, said element selected from the group consisting of non-metallic elements such as H, P, S and O; semi-metallic elements such as B, As, Te, Sr and Se; metallic elements such as Al, Ag, In, Cr, Ag, Fe, and Bi; and mixts. thereof with at least 1 element having smaller solubility limit than that of Si. Semiconductor elements and compds. are also possible additives. A semiconductor thin ribbon wafer is obtained under the polycryst. structure by ejecting a melt through a nozzle and rapidly cooling it on the moving surface of a cooling substrate at a cooling rate of >3000 up to 1,000,000°/s. The wafer is usable as rectifiers, junction elements, varistors, thermistors, memory elements, photoelec. elements, photocells, thermoelec. elements, electronic cooling elements atomic cell elements, etc. The composition and geometry of the nozzle and cooling substrate are noted. A sunlight a.c. generator device having a large surface area can be manufactured very cheaply.

IT **91017-73-1**
RL: USES (Uses)
(semiconductor ribbon wafers from silicon containing)
RN 91017-73-1 HCAPLUS
CN Silicon alloy, base, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 54 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1984:447380 HCAPLUS Full-text
DN 101:47380
TI Amorphous photoconductors
PA Nippondenso Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59032180	A	19840221	JP 1982-142314	19820817 <--
PRAI	JP 1982-142314		19820817 <--		

AB Highly sensitive amorphous photoconductors are obtained by forming **alloys** of Si with Ge, Pb, or Sn containing H or F as dangling-bond terminators. For Sn, the atomic% ratio of Sn to Si is 0.01-40% and the H or F atomic% ratio is 0.25-1%.

IT **91017-73-1**
RL: USES (Uses)
(amorphous photoconductor from hydrogenated)

RN 91017-73-1 HCAPLUS
CN Silicon alloy, base, Si,Sn (CA INDEX NAME)

Component	Component Registry Number
Si	7440-21-3
Sn	7440-31-5

L106 ANSWER 55 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1984:431997 HCAPLUS Full-text
DN 101:31997
TI Photoelectric cells
PA Semiconductor Energy Research Institute Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59032181	A	19840221	JP 1982-142288	19820816 <--
PRAI	JP 1982-142288		19820816 <--		

AB Photoelec. cells with high withstand potentials and visual sensitivity are prepared by coating p-Si with SiO2, opening windows, depositing amorphous hydrogenated and/or halogenated Si, depositing a similar layer of n-(Si,(Ge), n-(Si,Sn), or n-(Si,Pb), depositing a transparent conductor, opening windows, and forming contacts.

IT **62795-20-4**
RL: USES (Uses)
(photoelec. cells from amorphous)

RN 62795-20-4 HCAPLUS
CN Silicon alloy, base, Si 0-100,Sn 0-100 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	0 - 100	7440-21-3
Sn	0 - 100	7440-31-5

L106 ANSWER 56 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:114238 HCAPLUS Full-text
DN 96:114238
TI New amorphous **alloy** semiconductors: amorphous silicon-tin (Si1-xSnx)
AU Verie, C.; Rochette, J. F.; Rebouillat, J. P.
CS Lab. Phys. Solide, CNRS-Valbonne, Valbonne, 06560, Fr.

SO Journal de Physique, Colloque (**1981**), (C4, Pt. 2), 667-9
CODEN: JPQCAK; ISSN: 0449-1947
DT Journal
LA English
AB New amorphous Si1-xSnx **alloys** were prepared by using a d.c. **cathodic** sputtering technique for 0 < x < 0.12. Routine characterization measurements were performed. Both the average and optical gaps decrease with increasing Sn content, the latter extrapolating to 0 at x .apprx.0.5. The high sensitivity of amorphous Si electronic structure to Sn substitution is discussed in the framework of the tight-binding approach, stressing the importance of the atomic relativistic corrections.
IT **80965-86-2**
RL: PRP (Properties)
(amorphous semiconductors, elec. and optical properties of)
RN 80965-86-2 HCAPLUS
CN Silicon alloy, base, Si 63-100,Sn 0-37 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	63 - 100	7440-21-3
Sn	0 - 37	7440-31-5

L106 ANSWER 57 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1976:183720 HCAPLUS Full-text
DN 84:183720
TI Role of **alloy** valence on electromigration in thin tin **alloy** films
AU Ohring, M.; Singh, P.
CS Dep. Metall., Stevens Inst. Technol., Hoboken, NJ, USA
SO Thin Solid Films (**1976**), 31(3), 253-64
CODEN: THSFAP; ISSN: 0040-6090
DT Journal
LA English
AB Electrotransport effects in Sn film conductors **alloyed** with Group IIIA, IVA, and VA elements were studied. The electromigration damage was valence dependent. In the films containing Ga, In, and Tl, voids nucleated at the **cathode** interface separated the Sn and dilute **alloy** regions. Conversely, voids nucleated at the **anode** interface in the **alloys** containing As, Sb, and Bi. An anal. of electromigration indicated that the ratio of the vacancy flux in the **alloy** region to that in the **unalloyed** region depended on the sign of the solvent diffusivity enhancement factor. An electrostatic model for solvent diffusion predicted that the sign of the factor differed in Group IIIA and VA element-containing **alloys**. Under certain assumptions, agreement between theory and observation was attained.
IT **59392-42-6**
RL: USES (Uses)
(**electrodiffusion** in film conductors of, valence effect on)
RN 59392-42-6 HCAPLUS
CN Tin alloy, base, Sn 99,Si 1.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Sn	99	7440-31-5
Si	1.2	7440-21-3

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     (FILE 'HOME' ENTERED AT 13:16:19 ON 30 MAY 2007)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 13:16:31 ON 30 MAY 2007
L1             1 S US20040191630/PN OR (US2004-808481# OR JP2003-096988)/AP,PRN
               E KAWAMURA/AU
L2             3 S E3
               E KAWAMURA N/AU
L3           458 S E3,E8,E25,E26
               E NAOYA/AU
L4             1 S E3
               E KAWAKAMI/AU
L5             4 S E3
               E KAWAKAMI S/AU
L6           231 S E3,E4
L7           121 S E99
               E KAWAKAMI NAME/AU
L8            14 S E4
               E SOICHIRO/AU
L9             1 S E3
L10          830 S L2-L9
L11            1 S L1 AND L10
L12          829 S L10 NOT L11
               SEL RN L11

     FILE 'REGISTRY' ENTERED AT 13:19:23 ON 30 MAY 2007
L13            8 S E1-E8
L14            1 S C2H4O AND L13
L15            2 S L13 AND (SI AND SN)/ELS
L16        21914 S (7440-21-3/CRN OR SI/ELS OR (?SILIC? OR ?SILYL? OR ?SILAN? OR
L17          852 S L16 AND TIS/CI
L18         9238 S L16 NOT L***,L17
L19        12676 S L***,L17
L20          135 S L19 AND 2/ELC.SUB
L21        12541 S L19 NOT L20

     FILE 'HCAPLUS' ENTERED AT 13:22:46 ON 30 MAY 2007
L22          747 S L15 OR L20
L23        18414 S L21
L24          430 S L22 AND PY<=2003 NOT P/DT
L25          179 S L22 AND (PD<=20030331 OR PRD<=20030331 OR AD<=20030331) AND P
L26          609 S L24,L25
L27        11350 S L23 AND PY<=2003 NOT P/DT
L28         5295 S L23 AND (PD<=20030331 OR PRD<=20030331 OR AD<=20030331) AND P
L29        16645 S L27,L28
L30           21 S L26 AND H01M/IPC,IC,ICM,ICS
L31          165 S L29 AND H01M/IPC,IC,ICM,ICS
               E BATTERY/CT
L32        59558 S E4+OLD,NT OR E5+OLD,NT OR E6+OLD,NT OR E7 OR E8+OLD,NT
               E E9+ALL
L33         9182 S E2+OLD,NT OR E3+OLD,NT OR E4+OLD,NT
               E BATTERIES/CT
               E E3+ALL
L34       124841 S E1 OR E2+OLD,NT OR E3+OLD,NT OR E4+OLD,NT OR E5+OLD,NT
L35           26 S L26 AND L32-L34
L36          172 S L29 AND L32-L34
               E ELECTRODE/CT
L37            4 S E3
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L38      112113 S E91-E203
                E E91+ALL
L39      227143 S E3+NT
L40        8995 S E43+OLD,NT OR E44+OLD,NT
L41      485924 S E40+OLD,NT OR E41+OLD,NT
L42          53 S L26 AND L37-L41
L43         573 S L29 AND L37-L41
L44          54 S L30,L35,L42
L45         596 S L31,L36,L43
L46           5 S L10 AND L22
L47           7 S L10 AND L23
L48           7 S L46,L47
L49           4 S L48 AND L26
L50           5 S L48 AND L29
L51           5 S L49,L50
L52           5 S L51 AND L1-L12,L22-L51
L53           2 S L48 NOT L52
L54           7 S L52,L53
L55           6 S L54 AND ?PARTICLE?
L56           3 S L54 AND (L14 OR PVA OR (POLYVINYL OR POLY VINYL)()ALCOHOL OR
L57           7 S L54-L56
L58          18 S L44 AND ?PARTICLE?
L59           2 S L44 AND ?SPHER?
L60           2 S L44 AND ?POWD?
                E PARTICLE/CT
                E E39+ALL
L61        3656 S E1
                E E4+ALL
L62      136569 S E1,E326,E327,E328,E329
                E E342+ALL
L63      103654 S E3,E9,E10
                E PARTICLE/CT
L64       98890 S E40-E44 OR E44+OLD,NT
L65       61291 S E61-E82
L66           2 S L44 AND L61-L65
L67          18 S L58,L66
L68           6 S L45 AND (L14 OR PVA OR (POLYVINYL OR POLY VINYL)(W)ALCOHOL OR
L69          56 S L45 AND ?PARTICLE?
L70          10 S L45 AND ?SPHER?
L71          45 S L45 AND ?POWD?
L72           9 S L45 AND L61-L65
L73          21 S L57,L67
L74          13 S L73 AND ELECTROD?
L75           3 S L73 AND CATHOD?
L76          15 S L73 AND ANOD?
L77          20 S L73 AND (BATTER? OR FUEL CELL)
L78           1 S L73 NOT L74-L77
L79          20 S L74-L77
L80         101 S L68-L72
L81          33 S L80 AND ELECTROD?
L82          23 S L80 AND CATHOD?
L83          42 S L80 AND ANOD?
L84          38 S L80 AND (BATTER? OR FUEL CELL)
L85          57 S L81-L84
L86          44 S L85 AND ELECTR?/SC,SX
L87          13 S L85 NOT L86
                SEL AN L86 10 12 41 42 43 44
L88          38 S L86 NOT E1-E12
L89          44 S L80 NOT L85
                SEL AN 5 13 24 25
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L90           4 S L89 AND E13-E20
L91          42 S L88,L90
L92           9 S L79 AND ?ALLOY?
L93          13 S L91 AND ?ALLOY?
L94          16 S L92,L93
L95          57 S L44,L57
L96          24 S L95 AND H01M/IPC,IC,ICM,ICS
L97          54 S L95 AND ELECTR?/SC,SX
L98          57 S L95 AND L32-L34,L37-L41
L99           3 S L95 AND (L14 OR PVA OR (POLYVINYL OR POLY VINYL)(W)ALCOHOL OR
L100         20 S L95 AND ?PARTICL?
L101         39 S L95 AND (SPHER? OR ?POWD? OR ELECTROD? OR CATHOD? OR ANOD? OR
L102         57 S L95-L101
L103         36 S L102 AND ?ALLOY?
L104         21 S L103 NOT BATTERY
L105         21 S L102 NOT L103,L104
L106         57 S L102-L105

     FILE 'HCAPLUS' ENTERED AT 13:58:39 ON 30 MAY 2007

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